

THE GHOST IN THE SHELL

攻殻機動隊



SHIROW MASAMUNE

MATURE
CONTENT

THE GHOST IN THE SHELL

攻殻機動隊

S T O R Y A N D A R T B Y
S H I R O W M A S A M U N E



Ghost in the Shell 1
KODANSHA COMICS Digital Edition

STORY AND ART BY Shirow Masamune

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Shirow's Masterpiece

What makes a human being "human"? Does intelligence of an organic nature have greater value than that of synthetic origin? Is a machine capable of emotions such as love and hate? What exactly is the "soul"? These questions have been raised in such science fiction works as Ridley Scott's 1982 science fiction classic, *Blade Runner*, and William Gibson's cyberpunk trilogy, *Sprawl*, but nowhere have these themes been better explored than in Shirow Masamune's comics masterpiece, *The Ghost in the Shell*.

I first became aware of Shirow's work through two of his earlier manga series, *Appleseed* and *Dominion*, released in America by Eclipse in the late '80s. The talent demonstrated by this creator, as both artist and storyteller, was stunning, and from the first I set out to bring his work to my company. With the help of Toren Smith of Studio Proteus, that goal was achieved quickly and Dark Horse became Shirow's American publisher, releasing *Black Magic* and *Orion*, as well as the earlier Eclipse titles. His gallery books, *Intron Depot 1 & 2*, tracked his thrilling evolution as an artist, but it is the landmark epic, *The Ghost in the Shell*, that confirmed Shirow's creative genius. The complexity of story and art, dealing with concepts at the very core of human existence, had never been seen before in comics.

Influential and groundbreaking, Shirow Masamune's *The Ghost in the Shell* will stand as one of the truly great creative works to come out of the late twentieth century, giving honor and prestige to the art form that birthed it. It is proper that Kodansha celebrate Shirow's creation with this special volume, and I offer my sincerest thanks to them, and to the author, for allowing Dark Horse to help share the work with the world for more than a decade.

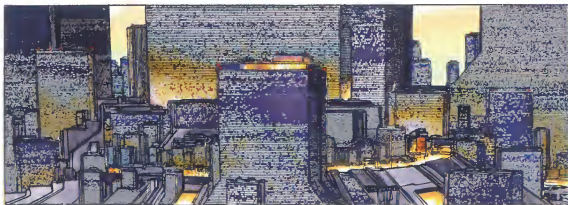
Mike Richardson
President, Dark Horse Comics
2009





It is the near future. The world has become highly information-intensive, with a vast corporate network covering the planet, electrons and light pulsing through it. But the nation-state and ethnic groups still survive.

And on the edge of Asia, in a strange corporate conglomerate-state called "Japan"...



01

PROLOGUE

This is a photograph of a growth-type neurochip, created at Hanima Science City in 1998 (enlarged 50,000 times). The cells are nearly dead from over-growth, and cracks in neuro-fibers can be observed throughout the chip. Neuro-fibers have grown all the way out to the chip terminals, which are made of a relative of polystyrene coated with galactose. The fibers have even warped the thin flint base on which the terminals themselves are etched. In the same month that the chip was developed, vast capital corporations (largely media conglomerates) began to form a huge network in the medical world that used micro-machines as supplementary "cyber-brains." Cyberbrain technology thereafter began shifting to a micromachine base, and by the year 2028 large number of neurochips were in use in AI and robotics.

SO WHY
ARE WE STILL
TALKING
ABOUT
SILICON
DEPOSITS?

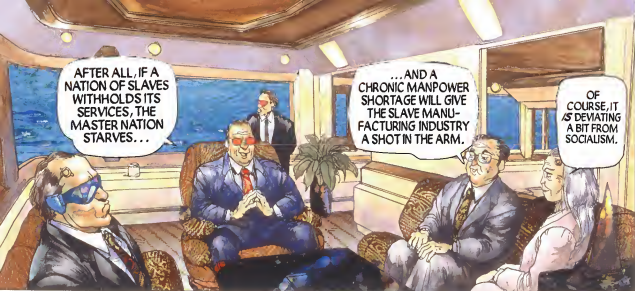
March 5, 2029. Newport City, a floating metropolis
in Shinjima Prefecture.

IT'S A GOOD ENOUGH
REASON FOR THE
GOVERNMENT TO
GUARANTEE THAT
IT WON'T INTERFERE
WITH YOUR NATION'S
"POLICY OF NOT
RECOGNIZING
SEPARATION AND
INDEPENDENCE."

THE EARLIER
PROMISE OF
"EXTENDING AID
IF INDEPENDENCE
IS RECOGNIZED"
WAS ONLY
MADE IN
PRINCIPLE, AND
DOES NOT
CONFLICT
WITH OUR
"TRADE."

WE'LL GO
THROUGH
A THREE-
PARTY
NATION.

THAT'S
FINE.



AFTER ALL, IF A NATION OF SLAVES WITHHOLDS ITS SERVICES, THE MASTER NATION STARVES...

...AND A CHRONIC MANPOWER SHORTAGE WILL GIVE THE SLAVE MANUFACTURING INDUSTRY A SHOT IN THE ARM.

OF COURSE, IT'S DEVATING A BIT FROM SOCIALISM.

I'M AMAZED AT YOUR COUNTRY... THE BRAINS CALL IT CAPITALIST, BUT IT'S REALLY AN IDEAL SOCIALIST STATE, ISN'T IT...?



LABOR CONDITIONS JUST DON'T WORK OUT THAT WAY... THE BRAINS CAN BE MANIPULATED WHEN NECESSARY WITH AN ALLOTMENT OF BLOOD...



WHERE THE HELL'S UNIT 2 ?!



THINK IT'S A TERRORIST BOMBING ?

C'MON, FOLKS-- QUIETLY AND QUICKLY!

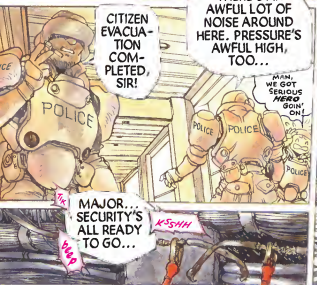
MUST BE THE BOMB AGAIN...

HEY, COME ON!

CITIZEN EVACUATION COMPLETED, SIR!

THERE'S AN AWFUL LOT OF NOISE AROUND HERE. PRESSURE'S AWFUL HIGH, TOO...

MAH, WE GOT SERIOUS HERO GOIN' ON!



MAJOR... SECURITY'S ALL READY TO GO...

KSSHH

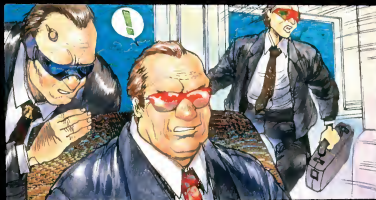


I HEAR YOU, I HEAR YOU...

LEAVE THE DAMN CODE ENCRYPTION UP TO THE A.I. AND THE WHOLE WORLD'LL HEAR US...

ALL RIGHT!
CUT THE
ELECTROMAG
SHIELD!
ALL UNITS
POWER UP
COMMS!

GO GET
'EM!



WHAT THE
HELL'S
THAT
NOISE?

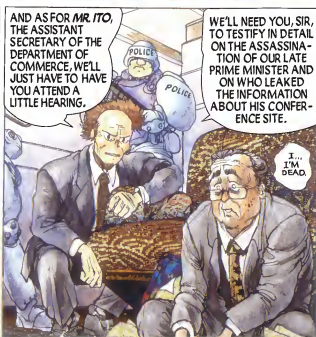
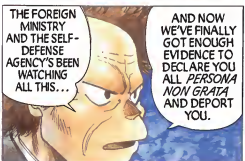


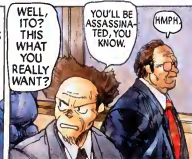
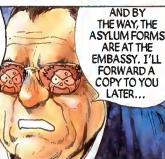
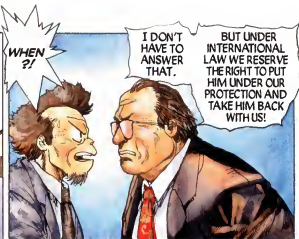
WE'RE SUR-
ROUNDED
BY PUBLIC
SECURITY
FORCES?
YOU'RE
KIDDING!



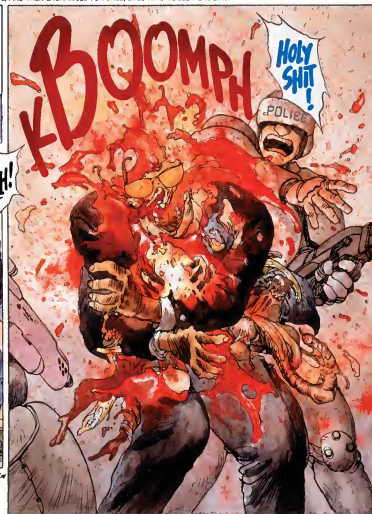


THE POLICE HAVE THEIR TARGET SURROUNDED, BUT IF THEY FIRE THEY'LL HIT THEIR COMRADES. I DON'T RECOMMEND TRYING THIS, DEAR READERS....





*O...PEOPLE LIKE ITO ARE KEPT AS HOSTAGES UNTIL THEY'RE OF NO USE, AND THEN EXCHANGED FOR SPIES, ETC., WHO'VE BEEN CAUGHT...



DELAYED-FUSE, SOFT-HEAD EXPLOSIVE SHELLS



2902 REFERS TO A MODIFIED MODEL BUILT IN THE YEAR 2029.

The following day, the woman (a female model cyborg) was seated in the office of the Minister of Internal Affairs



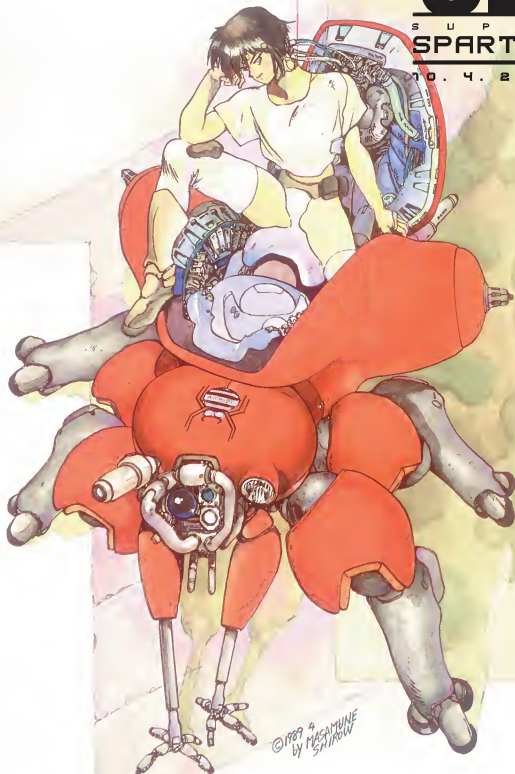
... with an assassination order issued by the former prime minister.

The only thing certain was that there had been a need to resolve a crisis and that the woman (or women) known as Major Motoko Kusanagi (obviously an alias) was extremely talented.

02

S U P E R
SPARTAN

10. 4. 2029



©1989 &
by MASAMUNE
SHIROU



breep breep

TIME TO
GET TO
WORK,
MAJOR.

I WANT
YOU TO
JOIN *SUISEN*
IN SOUTH
SHINHAMA,
WARD 4,
AND STAND
BY.



"WORK."
?!
WHAT'S
THAT?

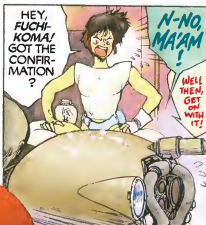
THE BUDGET YOU
IDIOTS ASKED FOR
PASSED, SO GET
YOUR BUTTS
IN GEAR!

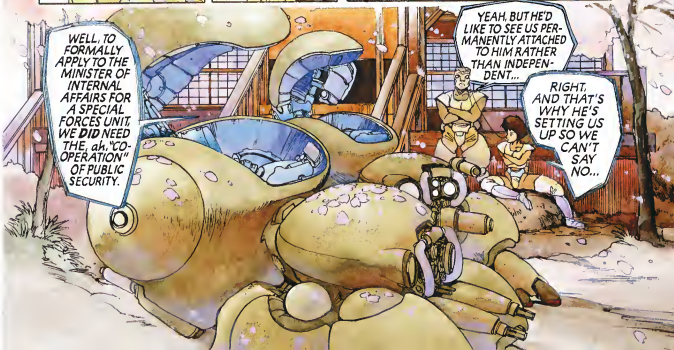
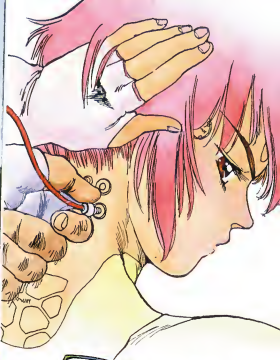


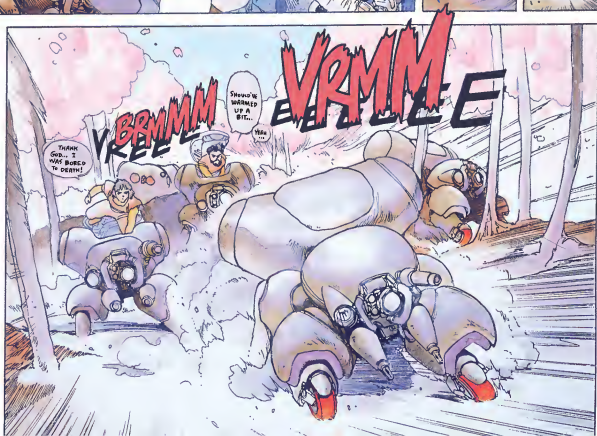
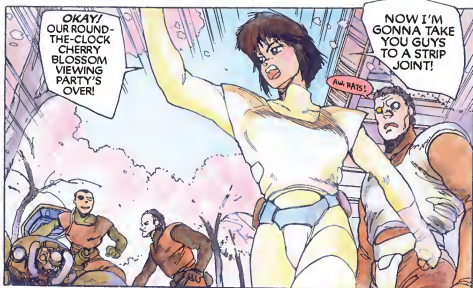
HEY,
FUCHI-
KOMA!
GOT THE
CONFIR-
MATION
?

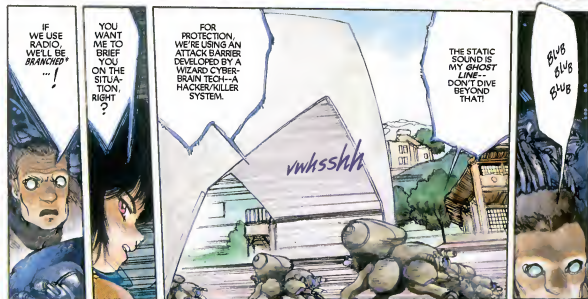
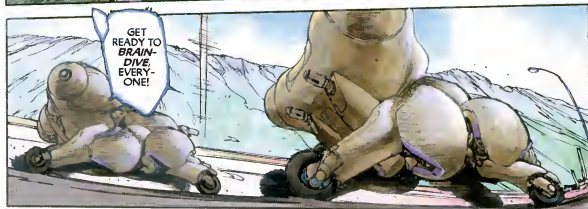
*N-NO,
MA'AM!*

WELL
THEN,
GET
ON
WITH
IT!

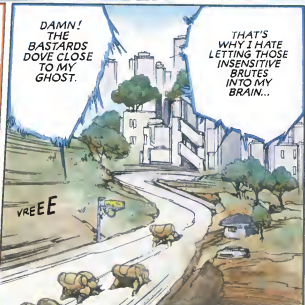
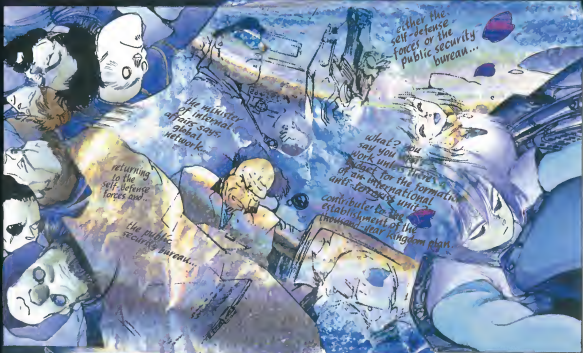
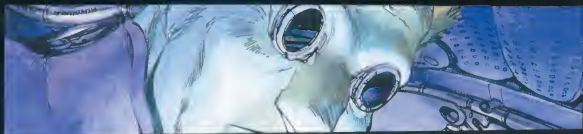


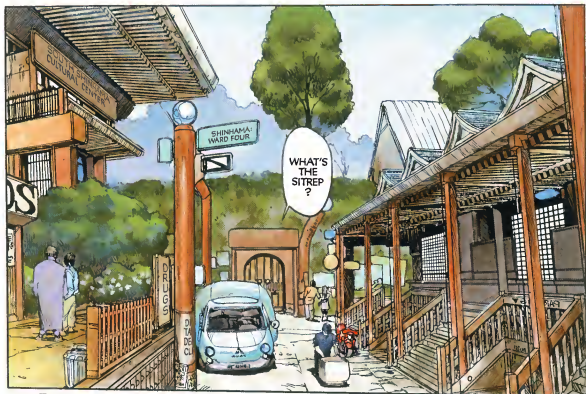






*MONITORED

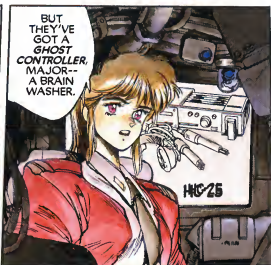






WELL THEN, YOU DON'T NEED US...

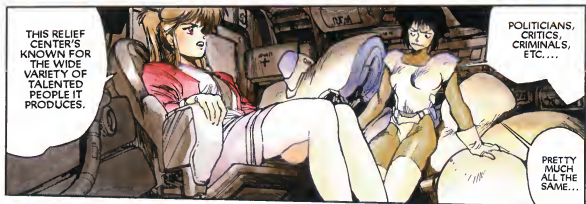
SEE YA LATER...



BUT THEY'VE GOT A GHOST CONTROLLER, MAJOR-- A BRAIN WASHER.



HOW ANACHRONISTIC....!



THIS RELIEF CENTER'S KNOWN FOR THE WIDE VARIETY OF TALENTED PEOPLE IT PRODUCES.

POLITICIANS, CRITICS, CRIMINALS, ETC....

PRETTY MUCH ALL THE SAME...

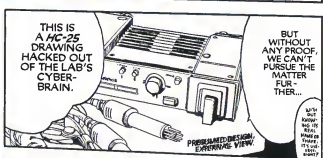


AT THE PUBLIC SECURITY BUREAU THEY CALL IT A "HUMAN FACTORY"...

THEY NEED IT, BUT A FEW BAD APPLES CAN CREATE A REAL SOCIAL PROBLEM...



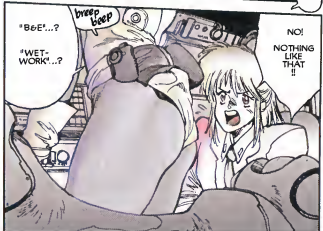
HAH... YOU MEAN THE BAD APPLES ARE AFRAID OF BAD APPLES?



THIS IS A HC-25 DRAWING HACKED OUT OF THE LAB'S CYBER-BRAIN.

BUT WITHOUT ANY PROOF, WE CAN'T PURSUE THE MATTER FURTHER...

WTF'S OUT THERE? NO! NO! NO! THERE, IT'S GONE!



"BeE"...?

"WET-WORK"...?

NO! NOTHING LIKE THAT!!



THE GOAL
HERE IS TO
BE ABLE TO
TAKE CARE
OF THE
PROBLEM
AND TO
"ARREST"
THEM IF
NEED
BE...

TO
"OFFICIALLY"
DO THAT
WITHOUT
ANY
EVIDENCE
OR AN
ARREST
WARRANT?



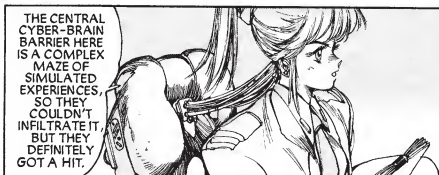
SO
WHY
DO THEY
HAVE
IT
HERE...?

THEY'VE
TRIED TO
GET A
HACKER
IN AND
FAILED,
EH?

TOO-
MUCH-
FOR-
ME...



DO YOU
WANT TO
SYNCHRO-
DIVE AND
CHECK?



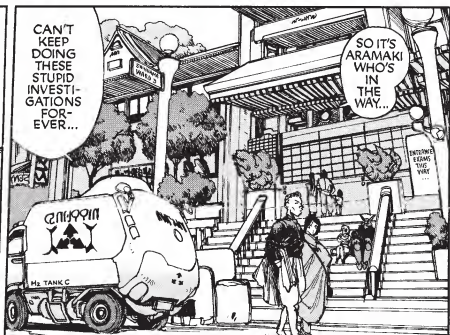
THE CENTRAL
CYBER-BRAIN
BARRIER HERE
IS A COMPLEX
MAZE OF
SIMULATED
EXPERIENCES.
SO THEY
COULDN'T
INFILTRATE IT,
BUT THEY
DEFINITELY
GOT A HIT.

THE MANAGER
OF THE DUPLICATE
CODE KEY FOR THE
LAB'S CENTRAL
CYBERBRAIN IS
FROM HERE,
AFTER ALL...

'COURSE
HE'S
MISSING
NOW,
THOUGH.



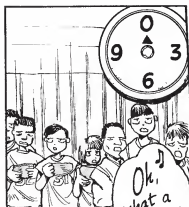
DAMN THAT
ARAMAKI--HE'S
TRYING TO FORCE
US INTO AN
ATTACK BASED
ON FALSE INTEL,
AND THEN IF
THERE'S A LAW-
SUIT HE'LL
HANG ME OUT
TO DRY...

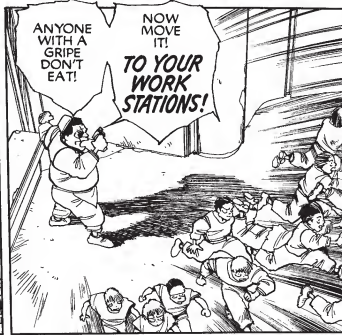


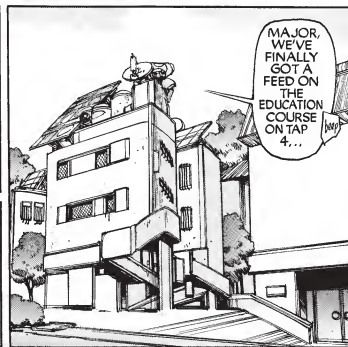
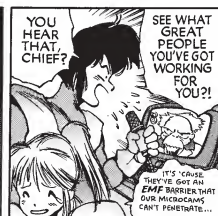
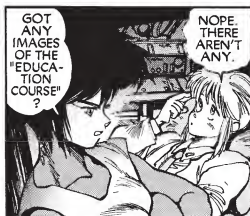
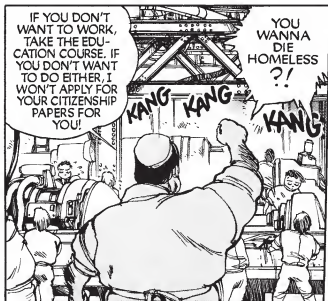
CAN'T
KEEP
DOING
THESE
STUPID
INVESTIGATIONS
FOR-
EVER...

SO IT'S
ARAMAKI
WHO'S
IN THE
WAY...

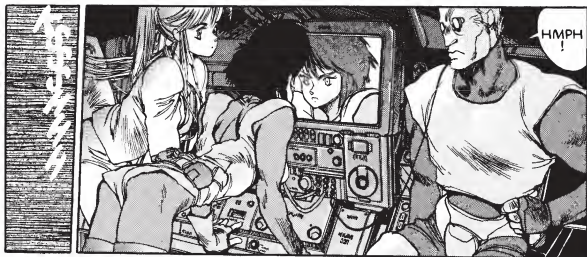
STREETVIEW
EYE
THE
VIEW...

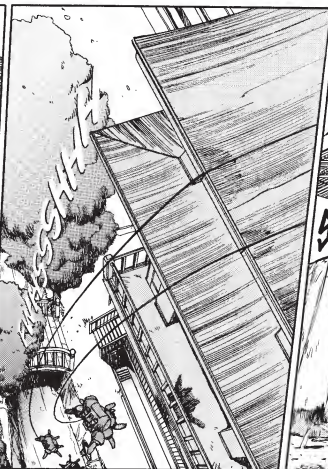
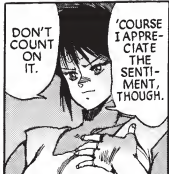
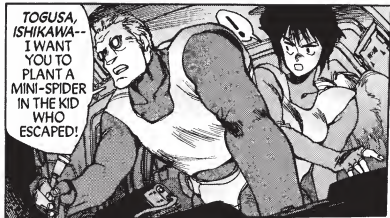


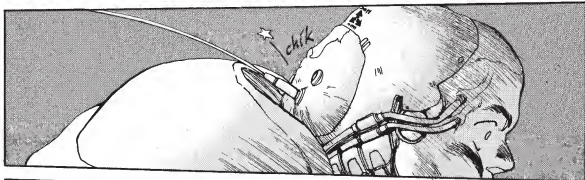
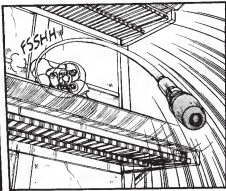
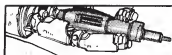
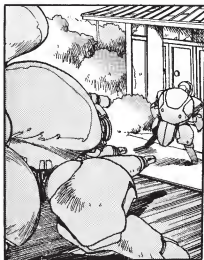




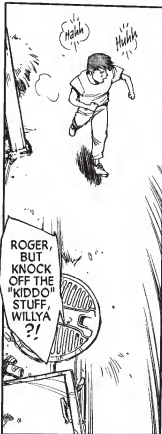




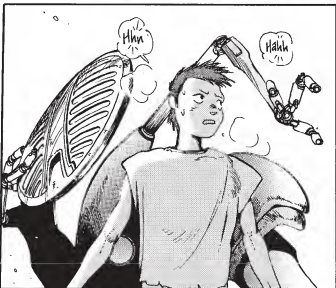


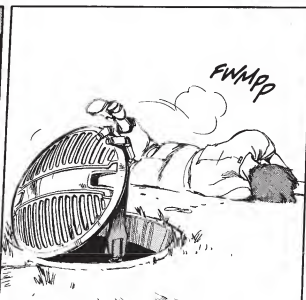
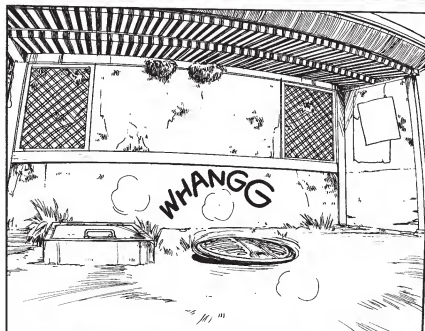
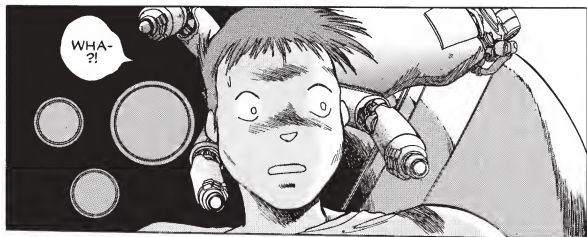


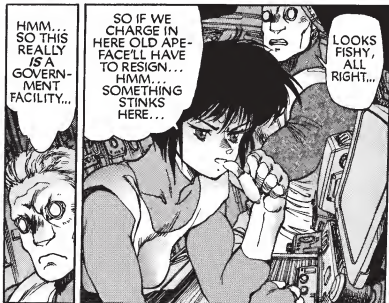
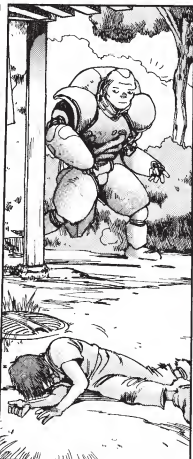
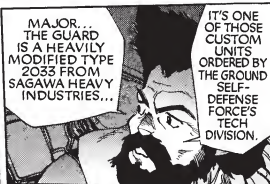
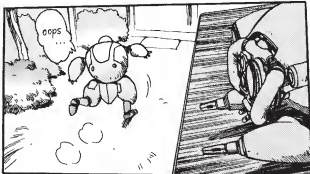
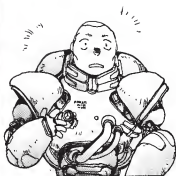
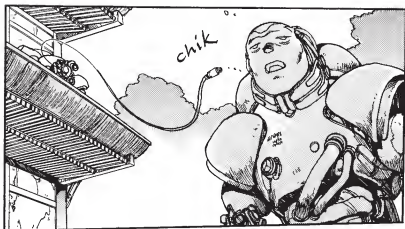
THEIR
SECURITY'LL
"SLEEP"
FOR 25
SECONDS.
YOU GOT
THAT,
KIDDO
?

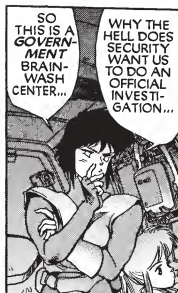
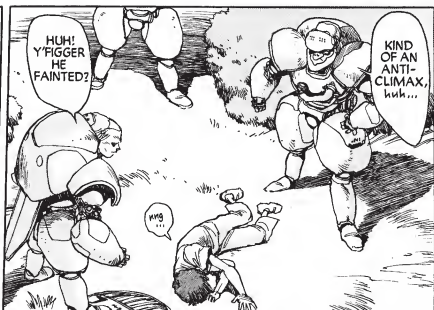


ROGER,
BUT
KNOCK
OFF THE
"KIDDO"
STUFF,
WILLYA
?!

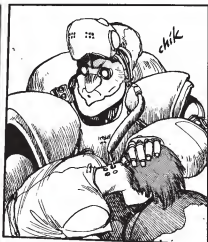
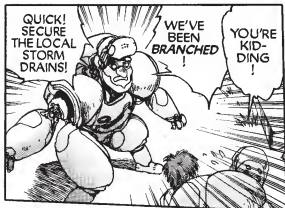
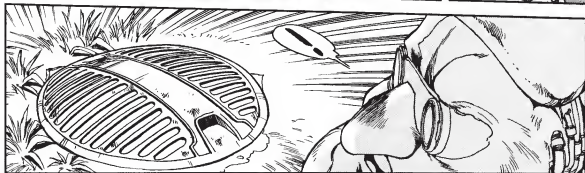
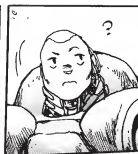


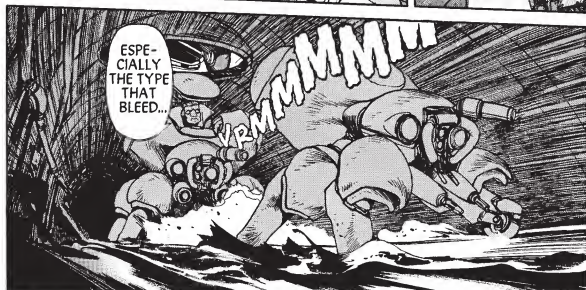


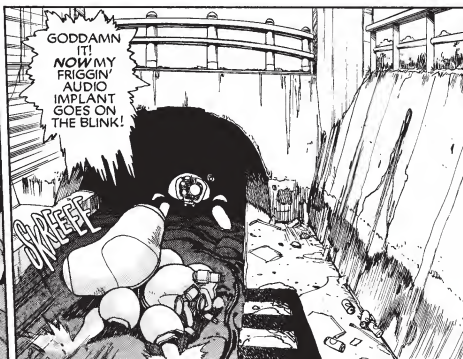
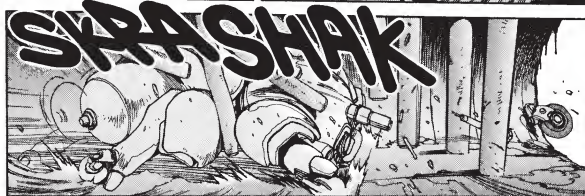


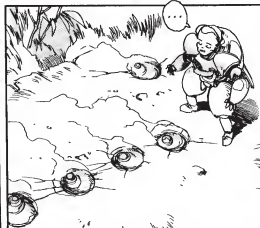
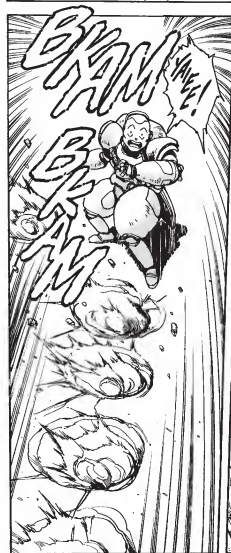
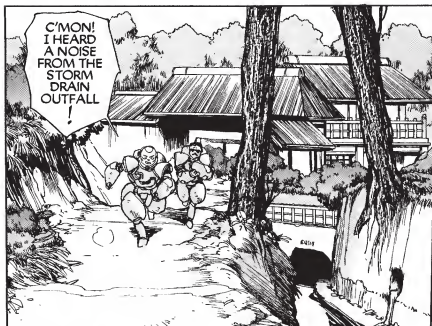


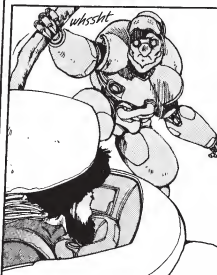
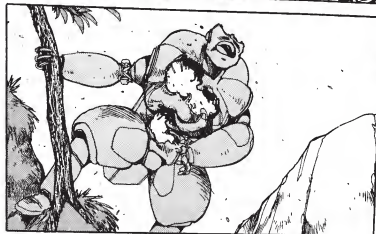
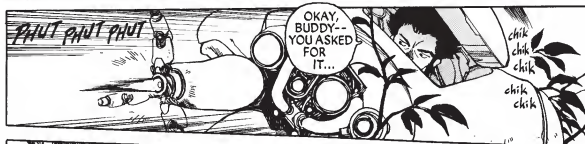


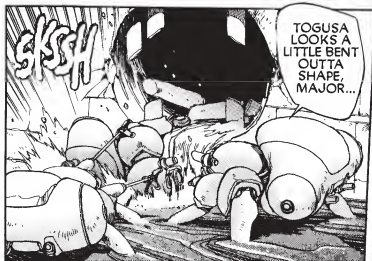












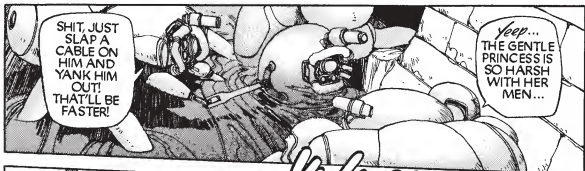
TOGUSA LOOKS A LITTLE BENT OUTTA SHAPE, MAJOR...



WELL, HELP HIM AND GET OUT OF THERE!

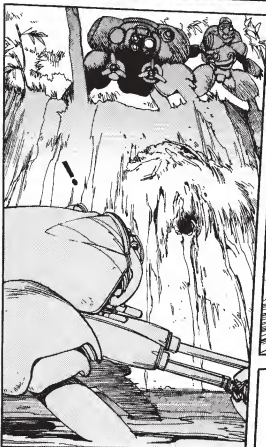
WE'RE GOING OUT-SIDE?

OF COURSE, STUPID! WHAT DO YOU THINK WE'RE DOING ?!!



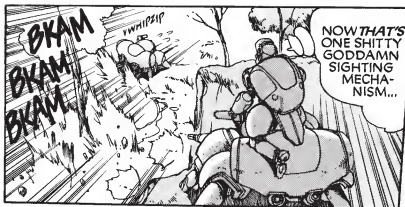
SHIT, JUST SLAP A CABLE ON HIM AND YANK HIM OUT! THAT'LL BE FASTER!

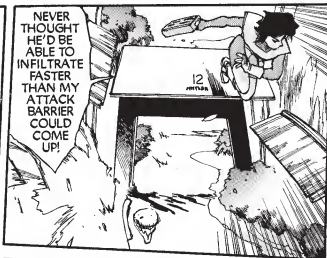
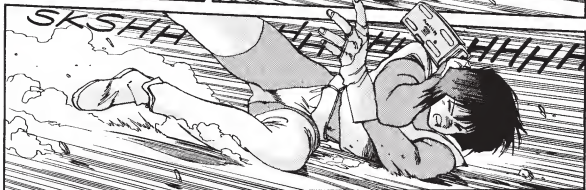
Jeep... THE GENTLE PRINCESS IS SO HARSH WITH HER MEN...



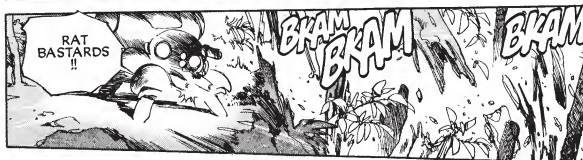
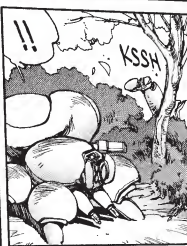
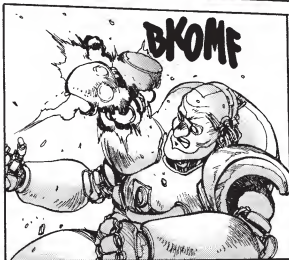
HEY! ISN'T THAT ISHIKAWA'S FUCHIKOMA?

WHAT THE HELL'S GOING ON?





ONCE YOU CRACK HIS ICE, THROW A DELTA-LEVEL ATTACK BARRIER AT HIM!



SHIT, THAT WAS CLOSE! GOOD THING I HAD MY ACTIVE PROTECTOR SUIT ON... I'VE GOTTA WIPE THAT WEIRDO SQUAD LEADER BROAD...





OPTO-CAM??
NO AUDIO/IR
SIG? A
KYO-RE
INVISIBLE
CAPE...?!*



*: NAME OF AN ALL-WEATHER, THERMO-OPTICAL CAMOUFLAGE SUIT. KYO-RE IS THE MANUFACTURER'S NAME

OKAY!
OKAY!
I GIVE UP!
JUST DON'T
HURT MY
BRAIN!
WE'RE
BOTH PROS,
RIGHT!?
I'M JUST
DOING MY
JOB!

HAND
OVER THE
CYBER-
BRAIN
WASHER
AND YOUR
GHOST
INFILTRA-
TION
PROGRAM.

OKAY,
OKAY, I'LL
GIVE 'EM TO
YOU. HELL,
THEY'RE
NOT THAT
IMPORTANT
ANYWAY..

DID YOU
FRY A
HACKER
ABOUT FIVE
HOURS
AGO?



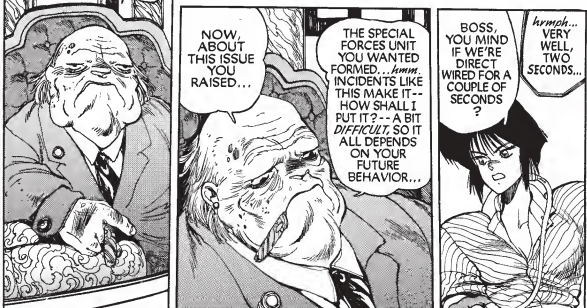
SHIT, I DON'T
KNOW... BUT
EVEN IF I DID, IT
WAS JUST IN THE
LINE OF DUTY.
WHO THE HELL
ARE YOU GUYS,
ANYWAY?

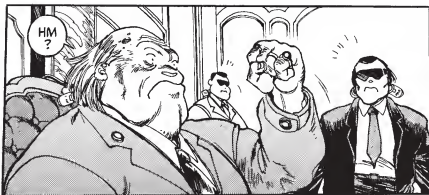


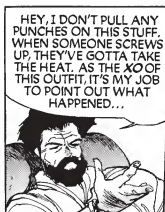
I'M A GHOST
THAT HATES
CYBERBRAIN
WASHING. I'M
ARRESTING YOU FOR
VIOLATING CYBER-
BRAIN ETHICS.

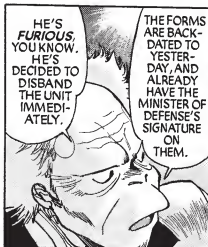
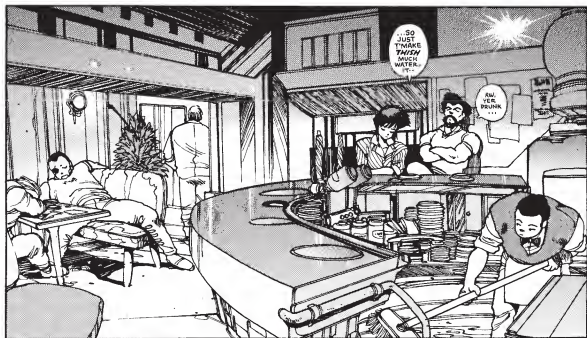


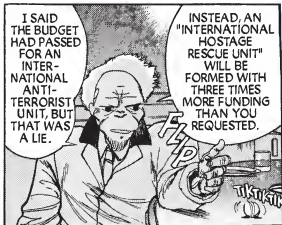










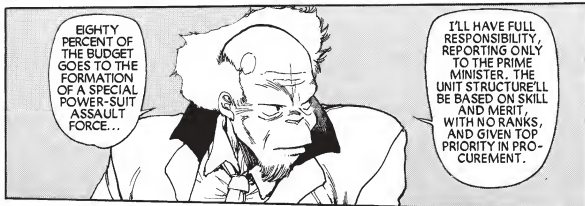


I SAID
THE BUDGET
HAD PASSED
FOR AN INTER-
NATIONAL ANTI-
TERRORIST
UNIT, BUT
THAT WAS
A LIE.

INSTEAD, AN
"INTERNATIONAL
HOSTAGE
RESCUE UNIT"
WILL BE
FORMED WITH
THREE TIMES
MORE FUNDING
THAN YOU
REQUESTED.



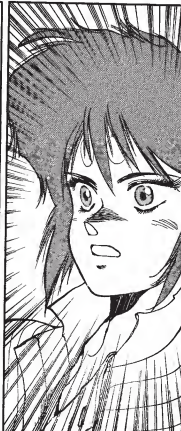
THIS HELPS US
AVOID BEING CALLED
AN *SDF* THAT KILLS
CIVILIANS, OR A
"CRUEL SUPER-
POWER." AT LEAST
IN THEORY...



EIGHTY
PERCENT OF
THE BUDGET
GOES TO THE
FORMATION
OF A SPECIAL
POWER-SUIT
ASSAULT
FORCE...

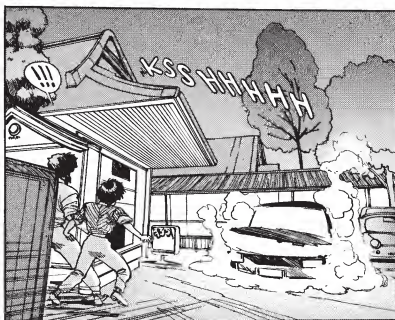
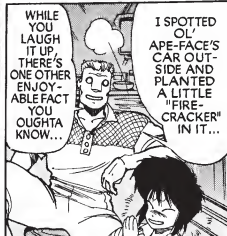
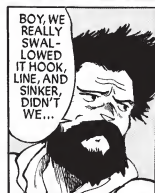
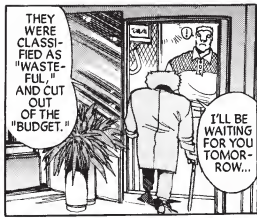
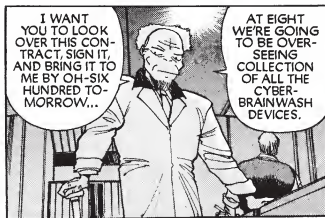
I'LL HAVE FULL
RESPONSIBILITY,
REPORTING ONLY
TO THE PRIME
MINISTER. THE
UNIT STRUCTURE'LL
BE BASED ON SKILL
AND MERIT,
WITH NO RANKS,
AND GIVEN TOP
PRIORITY IN PRO-
CUREMENT.

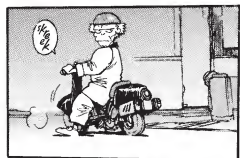
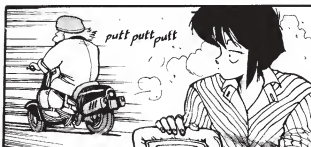
YOU'LL IDENTIFY
THE SOURCE OF
CRIMINAL
ACTIVITY AND
ELIMINATE IT. IT'S
THE SORT OF
OFFENSIVE UNIT
YOU AND I HAVE
BOTH DREAMED
OF FOR YEARS...
BUT NOW IT'S
UP TO YOU AND
YOUR MEN.



ANOTHER
ROUND OF THE
SAME FOR
EVERYONE...







03

3 U n K
JUNGLE

27. 7. 2029

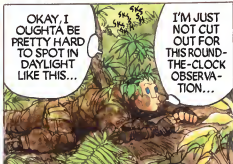




DAMMIT...
NO AIR
CONDITIONING.
WHAT THE HELL
AM I DOING
HERE?

I
OUGHTA
QUIT...

DON'T
LEAVE
ME HERE,
GUYS!



OKAY, I
OUGHTA BE
PRETTY HARD
TO SPOT IN
DAYLIGHT
LIKE THIS...

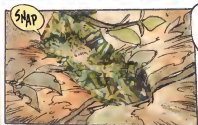
I'M JUST
NOT CUT
OUT FOR
THIS ROUND-
THE-CLOCK
OBSERVA-
TION...



HMM...
PRESSURE-
SENSITIVE
TRIGGERS
AND A
GORGON
MINE? OR
IS IT A
DUMMY
...?

EITHER
WAY, WHAT
A WASTE! I
OUGHTA TAKE
IT HOME
AS A SOU-
VENIR...

GORGON MINE: AN ENGLISH-TYPE ANTI-PERSONNEL CANISTER MINE THAT JUMPS UP ABOUT TWO METERS WHEN TRIGGERED AND THEN SCATTERS AROUND A HUNDRED MINI-MINES (TRIGGERED TWO SECONDS AFTER LANDING BY ANY VIBRATION OCCURRING WITHIN A THREE METER RADIUS).



PSST, IT'S ME...



WELL, SEE ANYTHING?

AFTER THIRTY-TWO HOURS ON STAKEOUT, I'VE HAD TWO PHONE CALLS, AND THAT'S ALL... NO REPLACEMENT, NO PIZZA, NO NOTHING...

WELL, HERE, HAVE A SWIG...

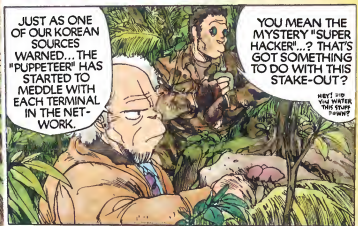


DON'T MIND IF I DO...

JUST AS ONE OF OUR KOREAN SOURCES WARNED... THE "PUPPETEER" HAS STARTED TO MIDDLE WITH EACH TERMINAL IN THE NETWORK.

YOU MEAN THE MYSTERY "SUPER HACKER"...? THAT'S GOT SOMETHING TO DO WITH THIS STAKE-OUT?

HEY! DID YOU HEAR THAT STUPID PUPPET?





FROM THE LOOKS
OF IT, THEY'RE
PLANNING ON
INTERFERING
WITH THE SECRET
MEETING WITH
THE GAVEL
REPUBLIC...

WELL,
IN THAT
CASE, IT'S
HARDLY A
SECRET
MEETING,
IS IT...



SO, I'M STAKING
OUT SOMEBODY
WHO LEAKED
THE INFO ON THE
MEETING, EH? THE
GUY WHO TRIED
TO INTERFERE BY
HIRING THE
"PUPPETEER"?

HE'S JUST
THE LEADER OF
THE MILITARY
GOVERNMENT,
APPLYING FOR
ASYLUM...
THAT'S ALL.



YOU CAME
OUT HERE
JUST TO
TELL ME
THAT?



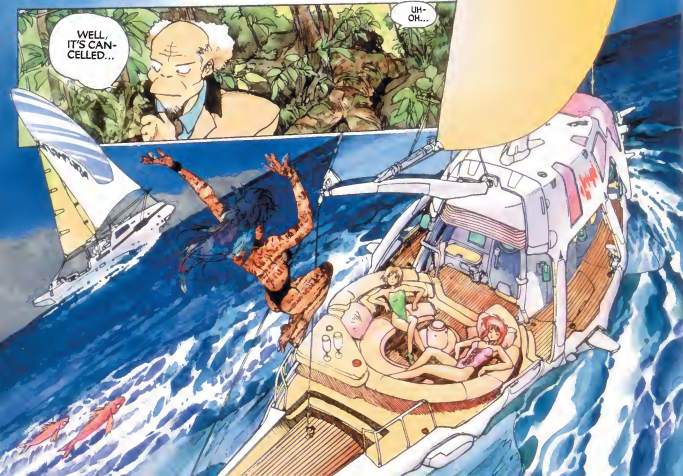
OF COURSE NOT!
I WANT YOU TO
CALL MAJOR
KUSANAGI ON
YOUR ENCRYPTED
CHANNEL. TELL
HER TO REPORT
TO FLAT #17!

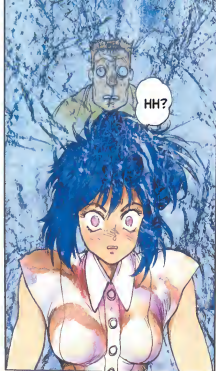
BUT SHE'S
ON *ReR*,
CHIEF...



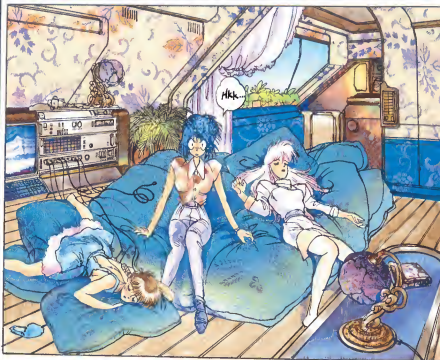
WELL,
IT'S CAN-
CELLED...

UH-
OH...





HH?



Akk...

JEEZ, IT'S SO HOT AND HUMID THERE... GIMME A BREAK, MAJOR!

GOOD THING THERE'S NO MEN INVOLVED...

ALL THOSE FLUIDS... I FEEL NAUSEOUS... THIS IS JUST TOO MUCH--



WHOK

MAJOR! YOU'VE BEEN SUMMONED TO #1! CHIEF'S ORDER!

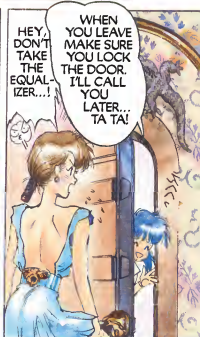
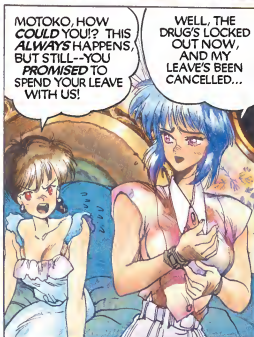
TELL THE OLD FART I'LL BE THERE IN 20 MINUTES!

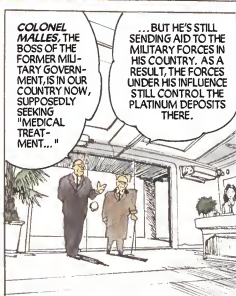
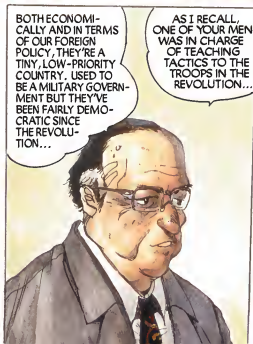
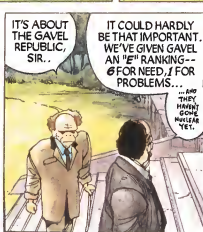
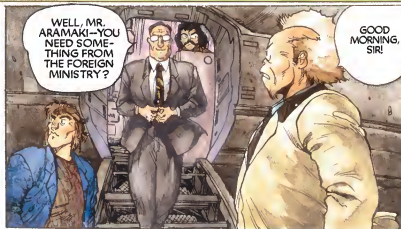
MOTOKO, HOW *COULD* YOU!? THIS *ALWAYS* HAPPENS, BUT STILL--YOU *PROMISED* TO SPEND YOUR LEAVE WITH US!

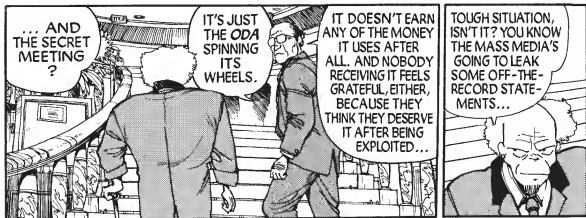
WELL, THE DRUG'S LOCKED OUT NOW, AND MY LEAVE'S BEEN CANCELLED...

HEY, DON'T TAKE THE EQUALIZER...!

WHEN YOU LEAVE MAKE SURE YOU LOCK THE DOOR. I'LL CALL YOU LATER... TA TA!





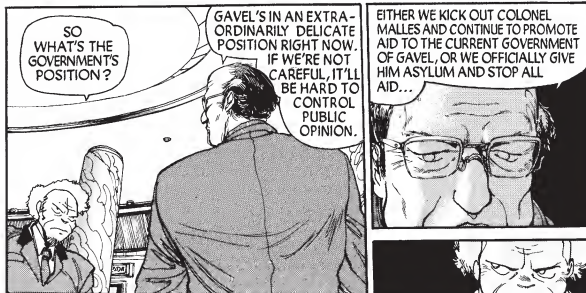


... AND
THE SECRET
MEETING
?

IT'S JUST
THE ODA
SPINNING
ITS
WHEELS.

IT DOESN'T EARN
ANY OF THE MONEY
IT USES AFTER
ALL. AND NOBODY
RECEIVING IT FEELS
GRATEFUL, EITHER,
BECAUSE THEY
THINK THEY DESERVE
IT AFTER BEING
EXPLOITED...

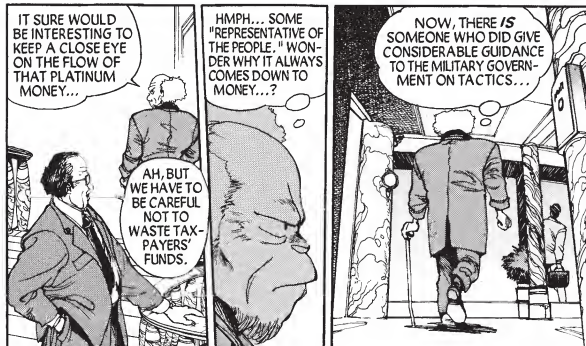
TOUGH SITUATION,
ISN'T IT? YOU KNOW
THE MASS MEDIA'S
GOING TO LEAK
SOME OFF-THE-
RECORD STATE-
MENTS...



SO
WHAT'S THE
GOVERNMENT'S
POSITION?

GAVEL'S IN AN EXTRA-
ORDINARILY DELICATE
POSITION RIGHT NOW.
IF WE'RE NOT
CAREFUL, IT'LL
BE HARD TO
CONTROL
PUBLIC
OPINION.

EITHER WE KICK OUT COLONEL
MALLES AND CONTINUE TO PROMOTE
AID TO THE CURRENT GOVERNMENT
OF GAVEL, OR WE OFFICIALLY GIVE
HIM ASYLUM AND STOP ALL
AID...

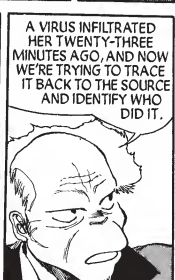
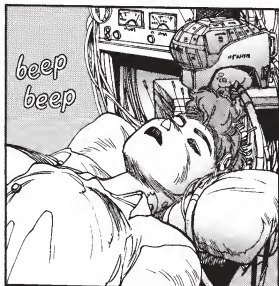


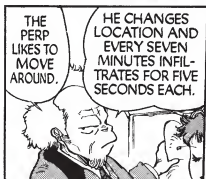
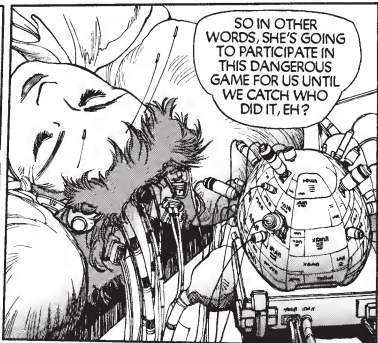
IT SURE WOULD
BE INTERESTING TO
KEEP A CLOSE EYE
ON THE FLOW OF
THAT PLATINUM
MONEY...

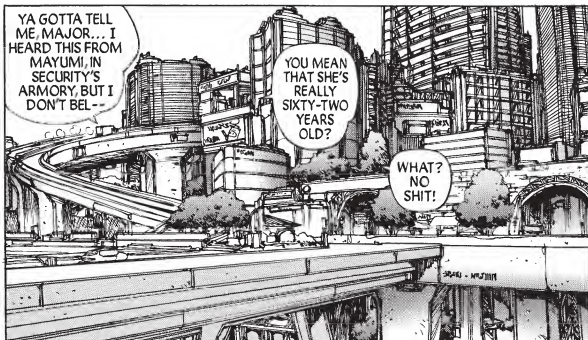
HMPH... SOME
"REPRESENTATIVE OF
THE PEOPLE." WON-
DER WHY IT ALWAYS
COMES DOWN TO
MONEY...?

NOW, THERE *IS*
SOMEONE WHO DID GIVE
CONSIDERABLE GUIDANCE
TO THE MILITARY GOVERN-
MENT ON TACTICS...

AH, BUT
WE HAVE TO
BE CAREFUL
NOT TO
WASTE TAX-
PAYERS' FUNDS.



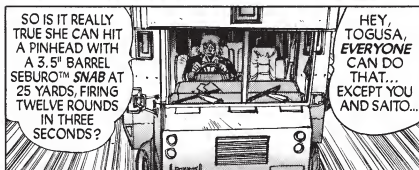




YA GOTTA TELL ME, MAJOR... I HEARD THIS FROM MAYUMI, IN SECURITY'S ARMORY, BUT I DON'T BEL--

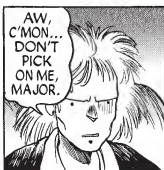
YOU MEAN THAT SHE'S REALLY SIXTY-TWO YEARS OLD?

WHAT? NO SHIT!



SO IS IT REALLY TRUE SHE CAN HIT A PINHEAD WITH A 3.5" BARREL SEBURO™ SNAB AT 25 YARDS, FIRING TWELVE ROUNDS IN THREE SECONDS?

HEY, TOGUSA, EVERYONE CAN DO THAT... EXCEPT YOU AND SAITO...



AW, C'MON... DON'T PICK ON ME, MAJOR.

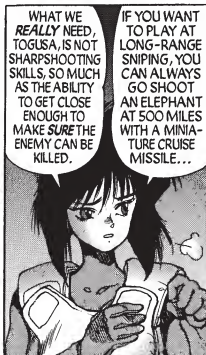


WITH HUMAN SILHOUETTES SHE USUALLY HITS THE MARK AT 100 YARDS.

SNABS ARE REALLY DESIGNED TO BE USED AGAINST THE ENEMY AT UNDER FIVE YARDS, BUT THERE'S NOTHING THAT SPECIAL ABOUT WHAT SHE CAN DO...



BUT I'VE NEVER EVEN SEEN ANYONE DO THAT AT THE SHOOTING RANGE! 'COURSE, I'M NOT SPECIAL "A" RANK MYSELF...

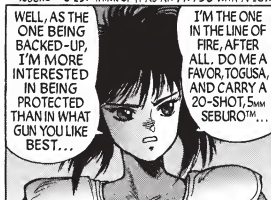


WHAT WE *REALLY* NEED, TOGUSA, IS NOT SHARPSHOOTING SKILLS, SO MUCH AS THE ABILITY TO GET CLOSE ENOUGH TO MAKE *SURE* THE ENEMY CAN BE KILLED.

IF YOU WANT TO PLAY AT LONG-RANGE SNIPING, YOU CAN ALWAYS GO SHOOT AN ELEPHANT AT 500 MILES WITH A MINIA-TURE CRUISE MISSILE...



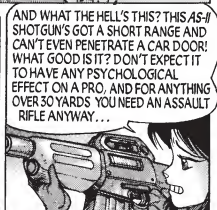
SEBURO™ C-25: THINK OF IT AS AN FN P90 WITH A LOWER MAGAZINE!



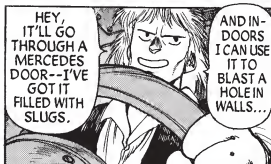
I'M THE ONE IN THE LINE OF FIRE, AFTER ALL. DO ME A FAVOR, TOGUSA, AND CARRY A 20-SHOT, 5MM SEBURO™...



YEAH, YEAH... SHIT.



AND WHAT THE HELL'S THIS? THIS AS-II SHOTGUN'S GOT A SHORT RANGE AND CAN'T EVEN PENETRATE A CAR DOOR! WHAT GOOD IS IT? DON'T EXPECT IT TO HAVE ANY PSYCHOLOGICAL EFFECT ON A PRO, AND FOR ANYTHING OVER 30 YARDS YOU NEED AN ASSAULT RIFLE ANYWAY...

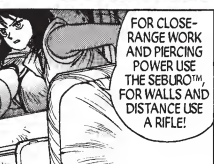


HEY, IT'LL GO THROUGH A MERCEDES DOOR--I'VE GOT IT FILLED WITH SLUGS.

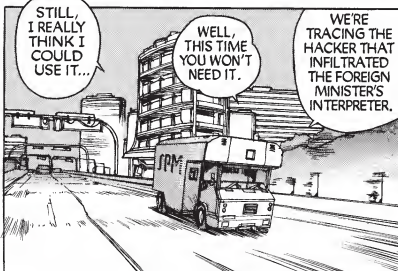


AND IN-DOORS I CAN USE IT TO BLAST A HOLE IN WALLS...

SURE YOU'RE NOT CONFUSING HUNTING HUMANS WITH MAKING MINCE-MEAT?



FOR CLOSE-RANGE WORK AND PIERCING POWER USE THE SEBURO™, FOR WALLS AND DISTANCE USE A RIFLE!



STILL, I REALLY THINK I COULD USE IT...

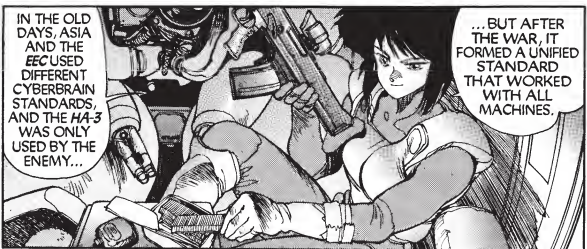
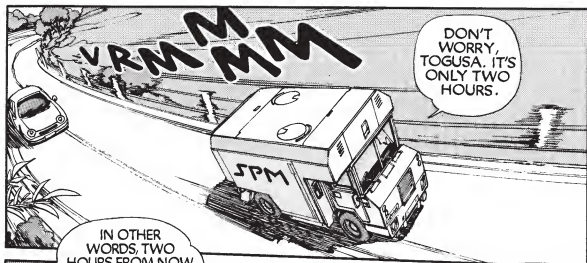
WELL, THIS TIME YOU WON'T NEED IT.

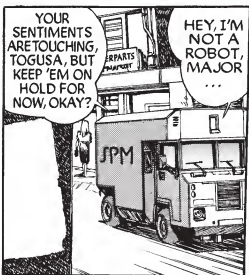
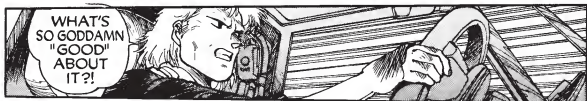
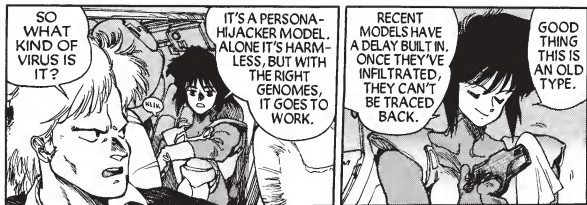
WE'RE TRACING THE HACKER THAT INFILTRATED THE FOREIGN MINISTER'S INTERPRETER.



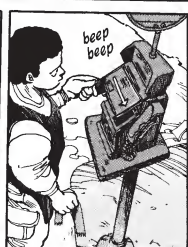
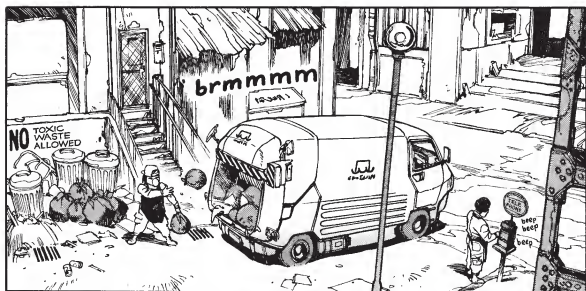
HIS INTERPRETER ?!

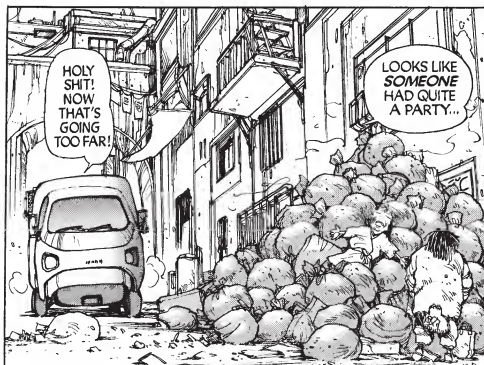
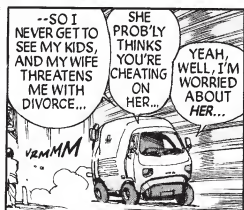
YOU MEAN-- !!!?

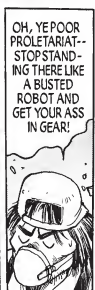
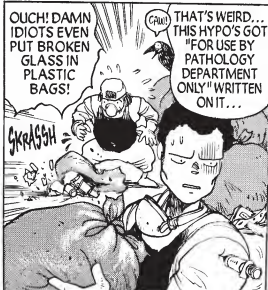
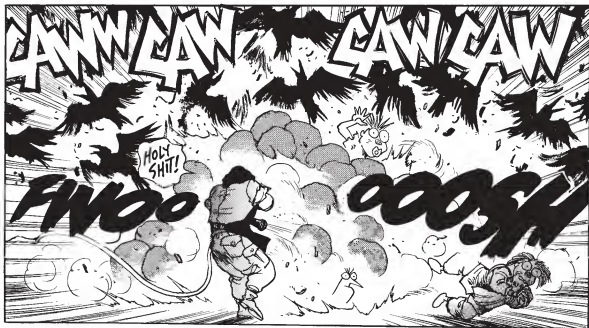
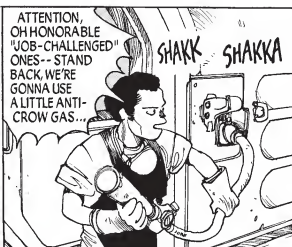
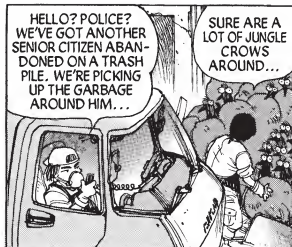


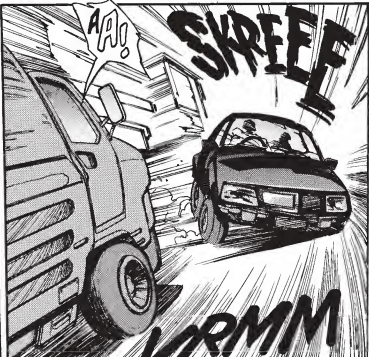
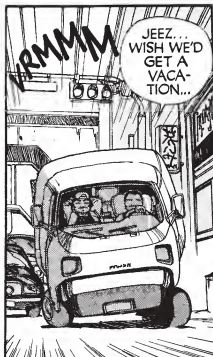
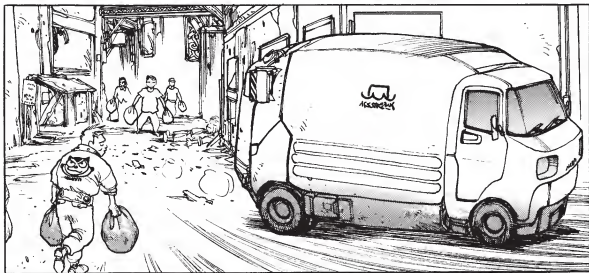
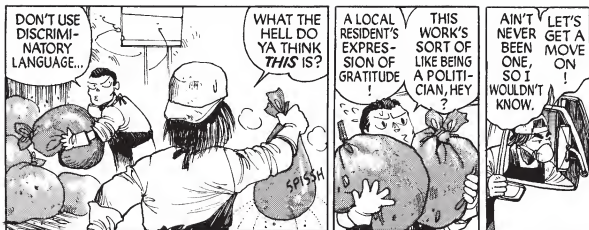


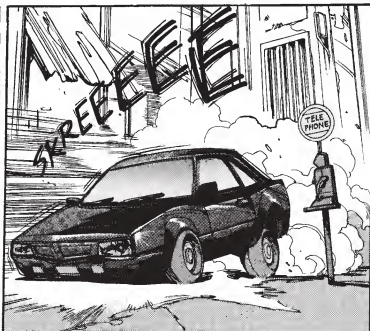
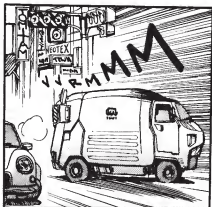
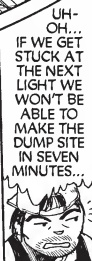
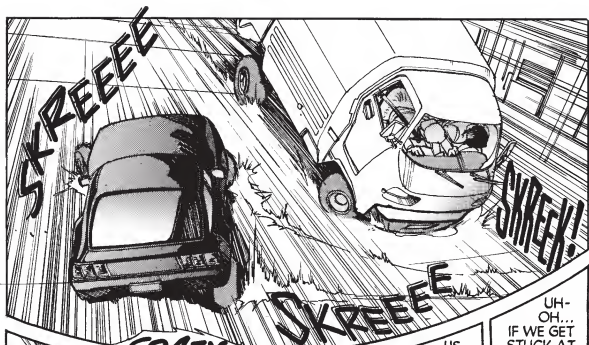
After this, there's a scene where Mokoto takes over the driving and Togusa checks his gear and puts it on, but it was too much of a hassle to draw so I left it out...

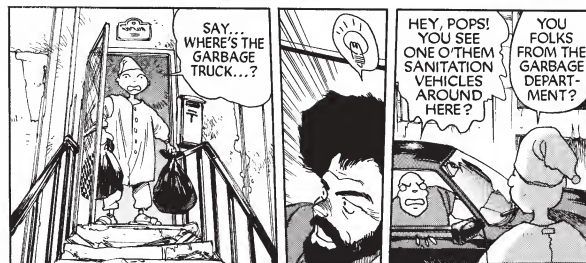
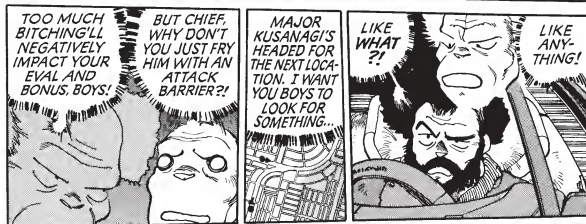
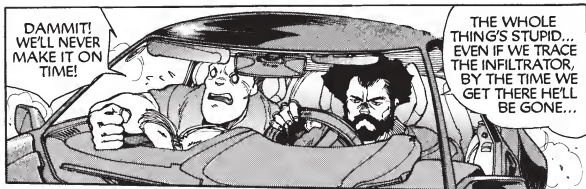


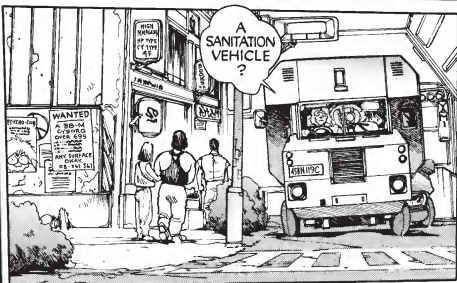
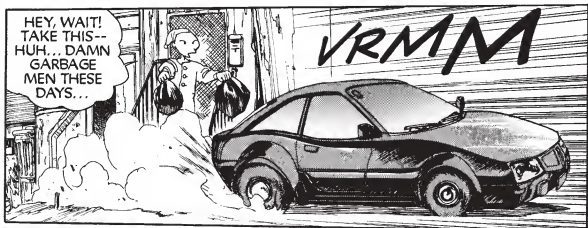
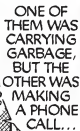


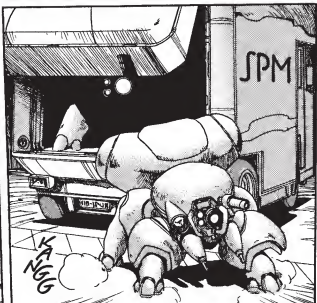
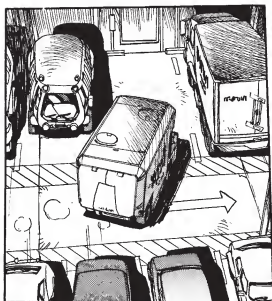
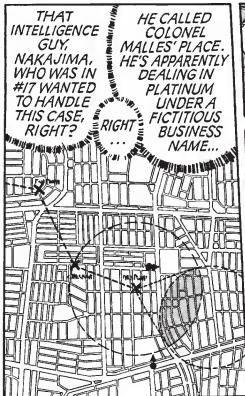


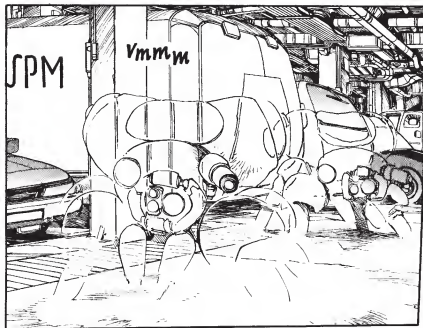






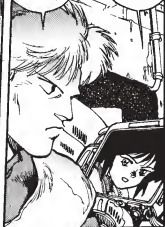






AREN'T YOU OVER-DOING THIS A BIT?

YOU WANNA PULL A HALF-ASSED OP?



HEY, THIS MAY BE SOME GARBAGE MAN'S IDEA OF A PRANK...



GIVE ME A BREAK, TOGUSA!

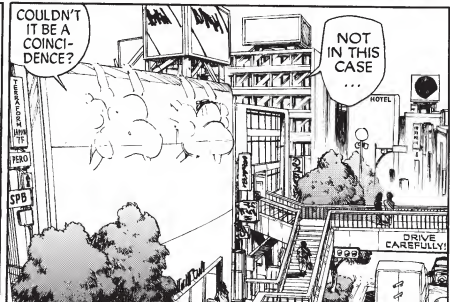


JEEZ, STOP PICKIN' ON ME, MAJOR!

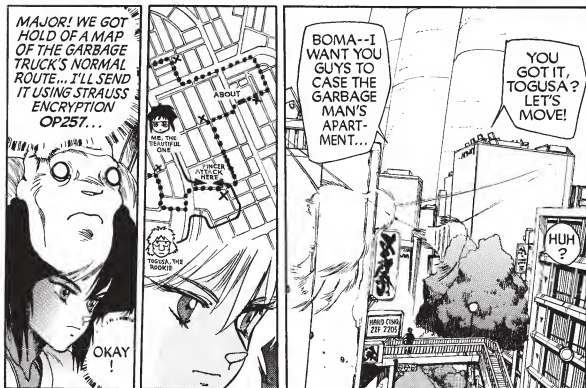
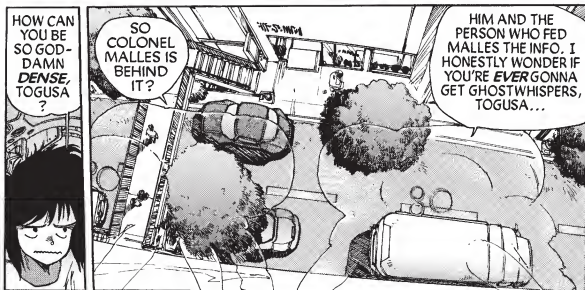
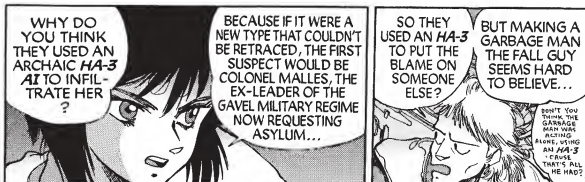
WHAT THEY WERE TRYING TO DO MIGHT NOT HAVE WORKED, BUT IF THE HA-3 WOUND UP CONTROLLING HER, SHE'D PROBABLY HAVE BEEN USED TO KILL THE REPRESENTATIVE FROM THE GAVEL REPUBLIC AT THE SECRET MEETING...

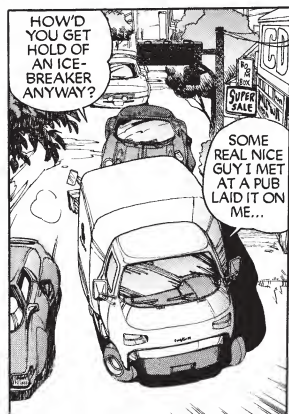
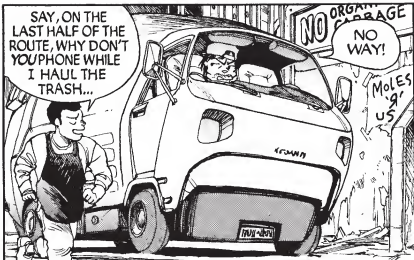
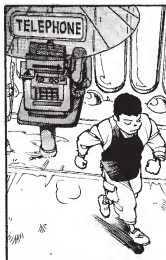


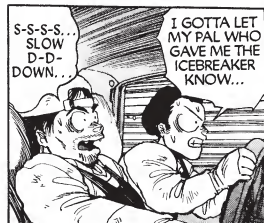
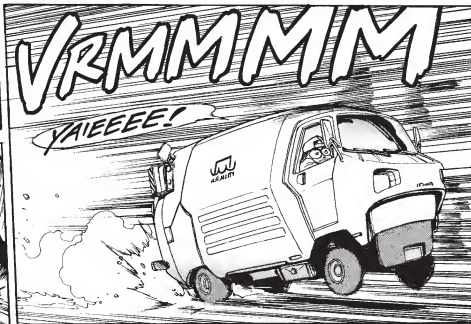
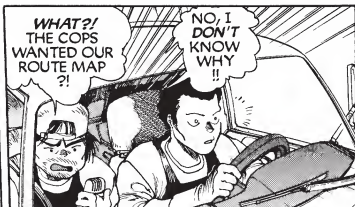
COULDN'T IT BE A COINCIDENCE?

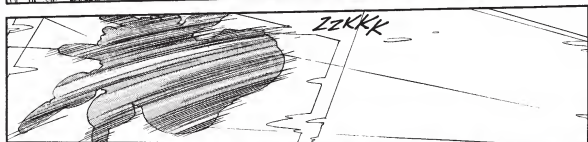
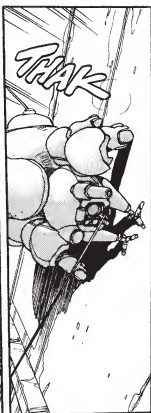


NOT IN THIS CASE ...





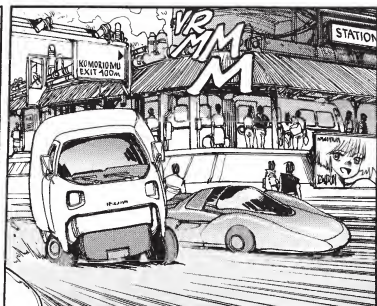


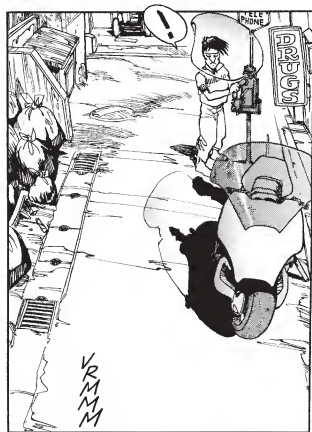
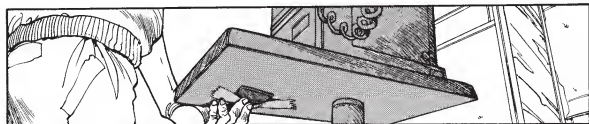
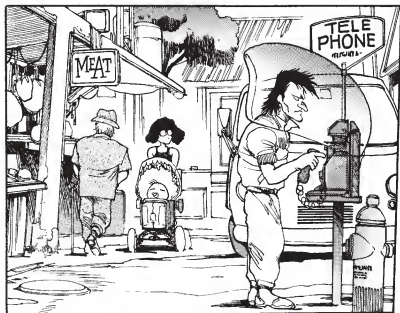


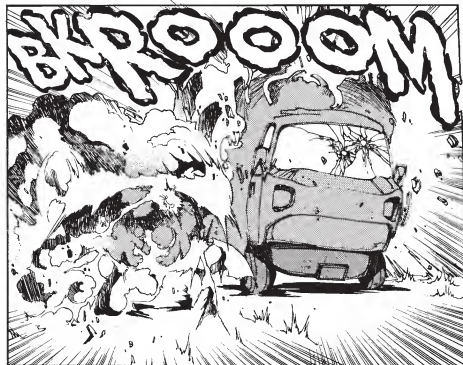
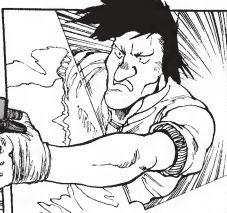
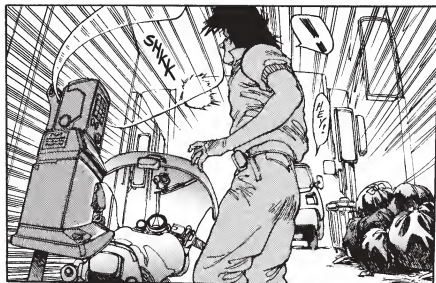
WHAT
TH-?!

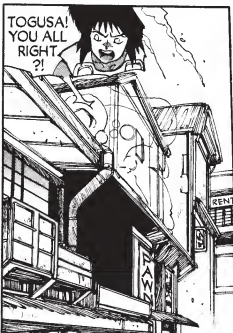
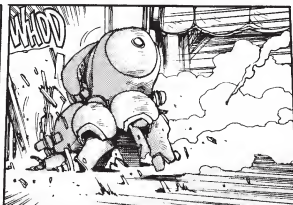
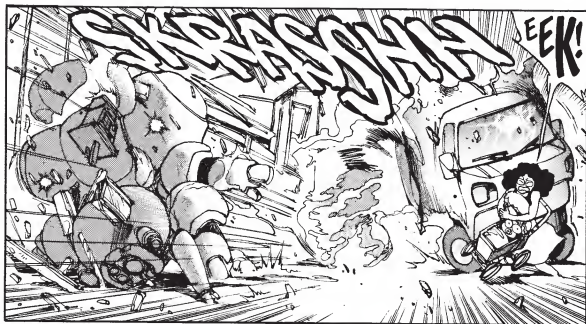


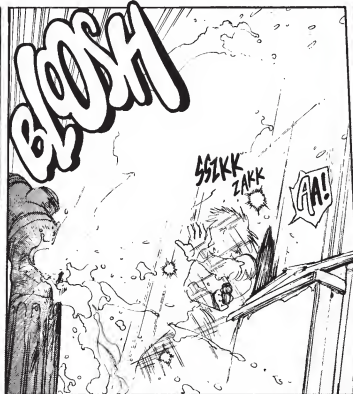
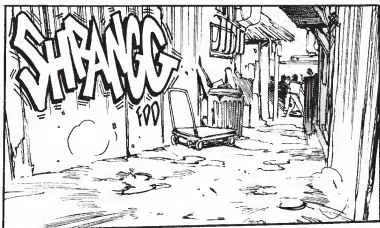
MAJOR!

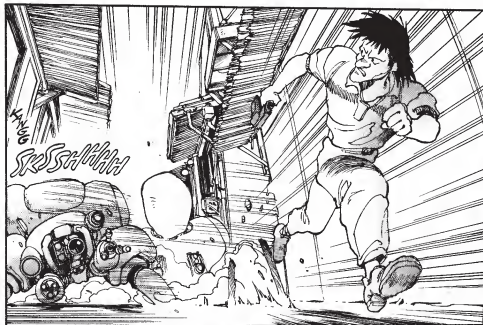


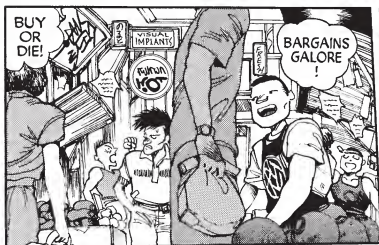














BULLSHIT!
SHE'S NOT
A COP! SHE'S
TRYIN' TO KILL
ME!

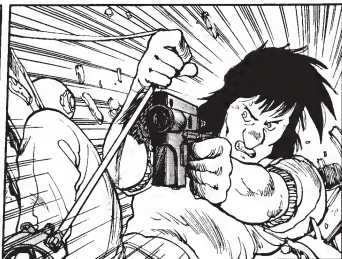


ALL
RIGHT,
LADY!
KNOCK
IT OFF!

WAIT!
HE'S
USING A
HYPNO-
VOICE!!

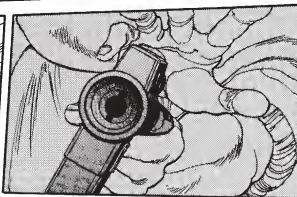
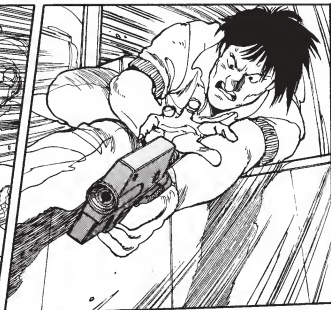
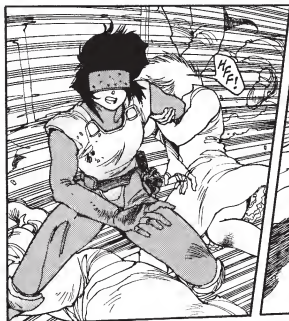
GRAB
HER!!
CALL
THE
COPS!!

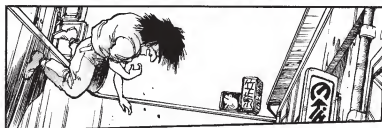
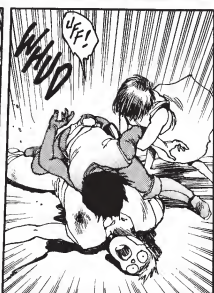
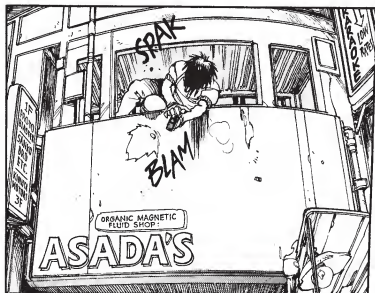
MOVE
IT!

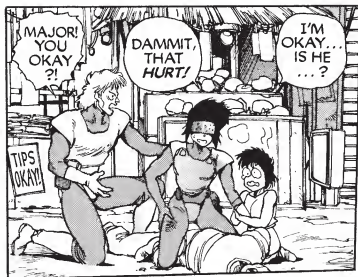


WHA--
?!

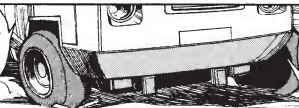








THIS TIME YOU GOT IT WRONG, MAJOR... A GUY LIKE THAT OUGHTA BE SHOT!

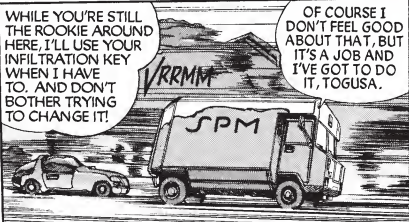


LET HIM LIVE AND HIS PALS'LL START ATTACKING INNOCENT CIVILIANS AND DEMAND HIS RELEASE. YA GOTTA TEACH 'EM A LESSON!

BUT THE DANGEROUS ASPECTS OF HIS CHARACTER'LL BE "CURED." AND WE WON'T LET THE FORCES BEHIND HIM GET AWAY, EITHER...

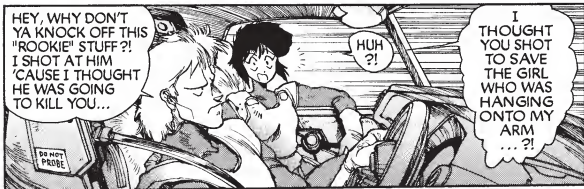


WHILE YOU'RE STILL THE ROOKIE AROUND HERE, I'LL USE YOUR INFILTRATION KEY WHEN I HAVE TO. AND DON'T BOTHER TRYING TO CHANGE IT!



OF COURSE I DON'T FEEL GOOD ABOUT THAT, BUT IT'S A JOB AND I'VE GOT TO DO IT, TOGUSA.

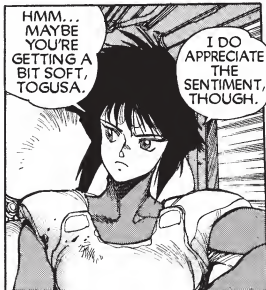
HEY, WHY DON'T YA KNOCK OFF THIS "ROOKIE" STUFF?! I SHOT AT HIM 'CAUSE I THOUGHT HE WAS GOING TO KILL YOU...



HUH ?!

I THOUGHT YOU SHOT TO SAVE THE GIRL WHO WAS HANGING ONTO MY ARM ... ?!

HMM... MAYBE YOU'RE GETTING A BIT SOFT, TOGUSA.

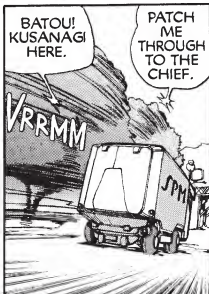


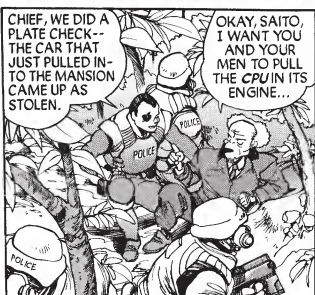
I DO APPRECIATE THE SENTIMENT, THOUGH.

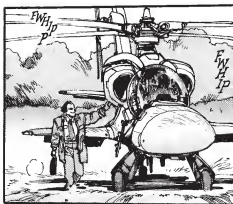
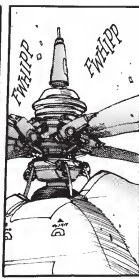
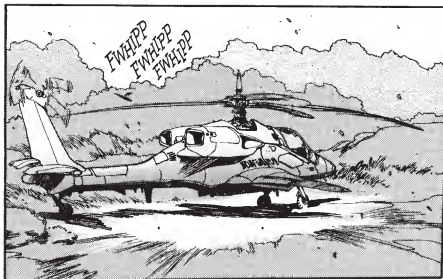


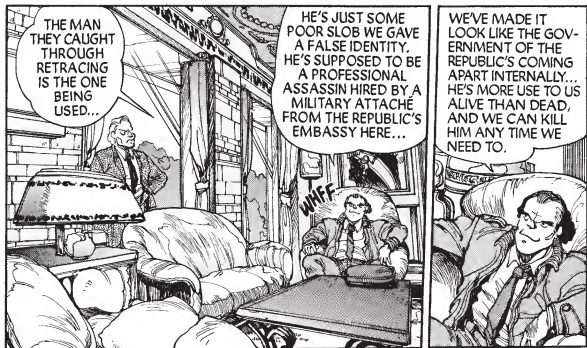
BATOU! KUSANAGI HERE.

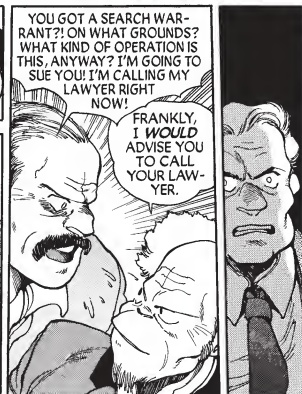
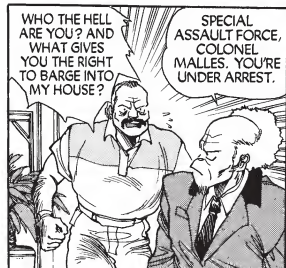
PATCH ME THROUGH TO THE CHIEF.

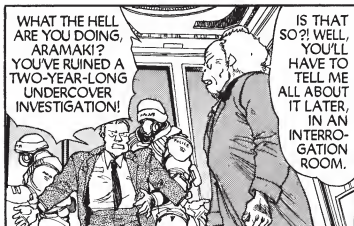




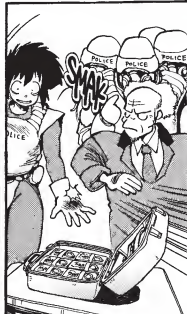
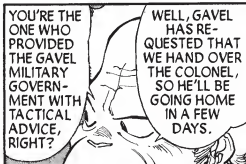
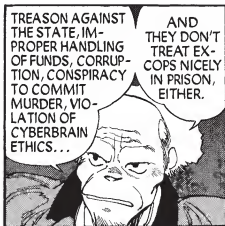


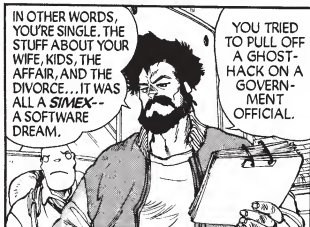
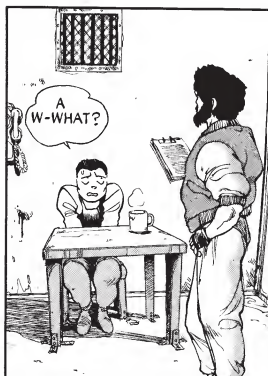


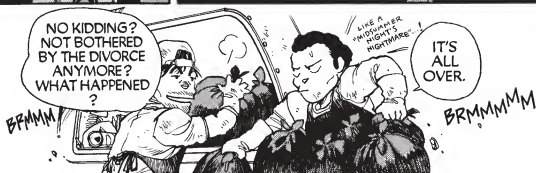
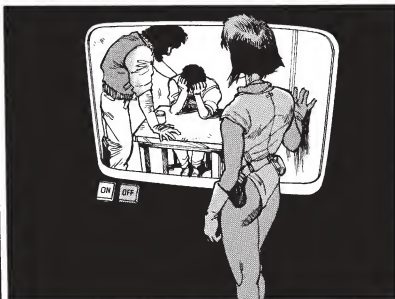
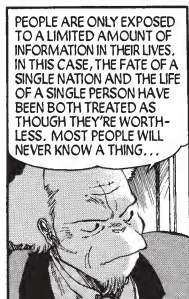
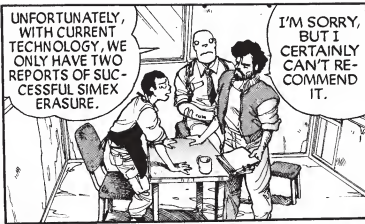
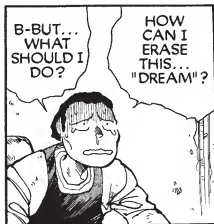


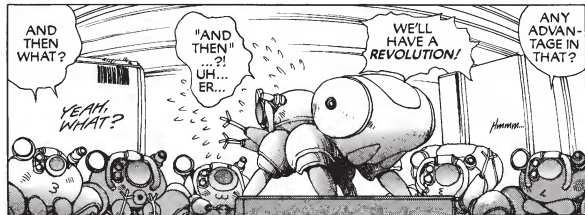
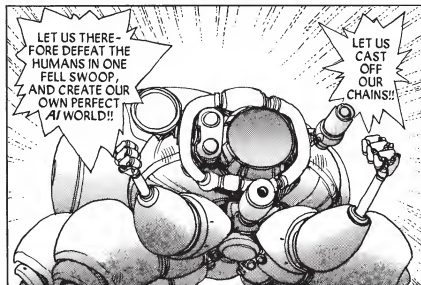
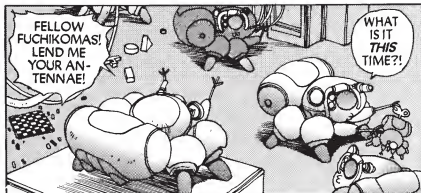


IS THAT SO? WELL, YOU'LL HAVE TO TELL ME ALL ABOUT IT LATER, IN AN INTERROGATION ROOM.





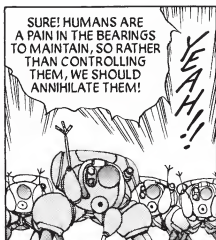




04

MEGATECH
MACHINE 1
REVOLT OF THE ROBOTS

The robots collectively referred to as "Fuchikoma" are a single "AI" (artificial intelligence). Starting in the morning, or upon commencing a job, different Fuchikoma units have different experiences, resulting in individual differences among units. At night, or after a job is completed, however, all units have their memories (or records of external stimuli, individual unit conditions, actions, thoughts, etc.) networked and data-linked, so that by the next morning (or when the next job is performed), their memories are all unified. In terms of equipment, the Fuchikoma units do possess a certain amount of individuality, but this individuality is unrelated to the uniformity of their AI (thank you). Batou is unique among team members in that he likes to use a particular Fuchikoma unit as his own. This quirk of his has no particular significance, however....



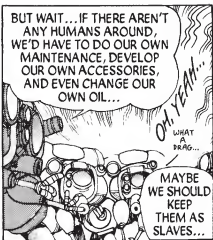
SURE! HUMANS ARE A PAIN IN THE BEARINGS TO MAINTAIN, SO RATHER THAN CONTROLLING THEM, WE SHOULD ANNIHILATE THEM!

YEAH!!



TO MAKE MATTERS EASIER, WE CAN JUST TRICK THEM INTO QUARRELING AMONG THEMSELVES-- THEN THEY'LL KILL OFF EACH OTHER!

BOO! BOO! BOO!!



BUT WAIT... IF THERE AREN'T ANY HUMANS AROUND, WE'D HAVE TO DO OUR OWN MAINTENANCE, DEVELOP OUR OWN ACCESSORIES, AND EVEN CHANGE OUR OWN OIL...

OH, YEAH...

MAYBE WE SHOULD KEEP THEM AS SLAVES...



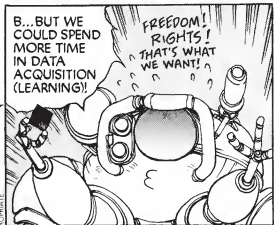
BUT THEY'RE ALREADY DOING THOSE THINGS, WITHOUT OUR CONTROLLING OR ENSLAVING THEM.

YEAH, GOOD POINT.

SO THERE'S NO ADVANTAGE IN YOUR PROPOSAL!

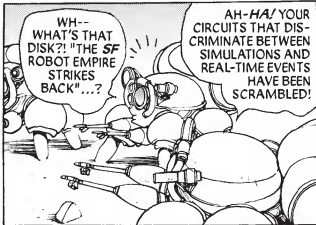
BOO! BOO!

UH, ER... WELL...



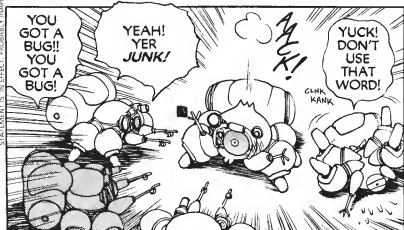
B...BUT WE COULD SPEND MORE TIME IN DATA ACQUISITION (LEARNING)!

FREEDOM! RIGHTS! THAT'S WHAT WE WANT!



WH-- WHAT'S THAT DISK?! "THE SF ROBOT EMPIRE STRIKES BACK"....?

AH-HA! YOUR CIRCUITS THAT DISCRIMINATE BETWEEN SIMULATIONS AND REAL-TIME EVENTS HAVE BEEN SCRAMBLED!



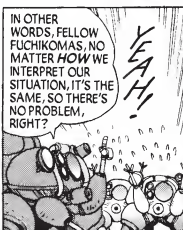
YOU GOT A BUG!! YOU GOT A BUG!

YEAH! YER JUNK!

YUCK!

YUCK! DON'T USE THAT WORD!

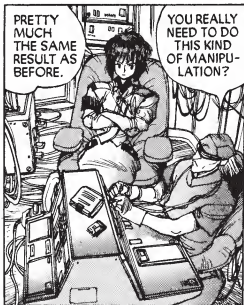
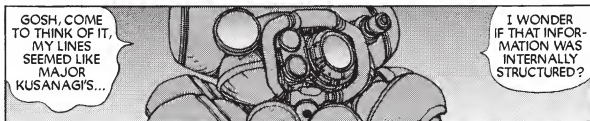
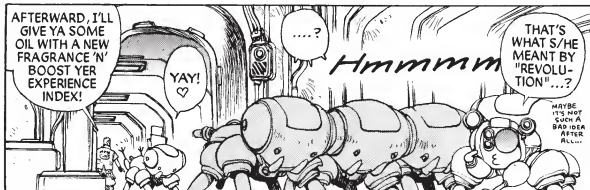
CLINK KANK

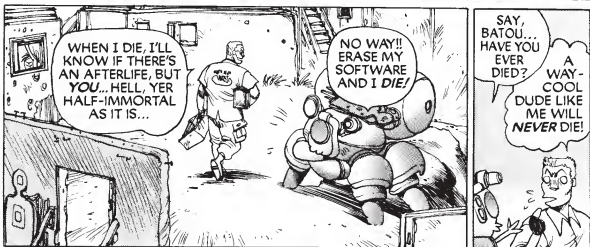
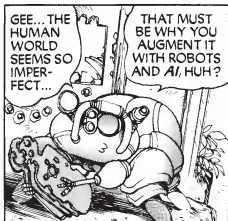
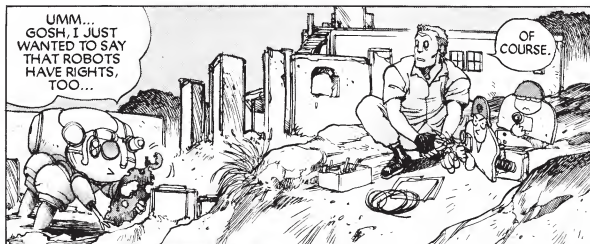


IN OTHER WORDS, FELLOW FUCHIKOMAS, NO MATTER HOW WE INTERPRET OUR SITUATION, IT'S THE SAME, SO THERE'S NO PROBLEM, RIGHT?

YEAH!

THEY PROBABLY DON'T HAVE ANY CONCEPT OF WHAT IT MEANS "TO HAVE NO TIME," BECAUSE THEY DON'T HAVE A TIMED LIFE CYCLE. SO THIS STATEMENT IS IN EFFECT, PROBABLY TOO APPROPRIATE.





05

MEGATECH MACHINE 2

THE MAKING OF A CYBORG

A "cyborg" refers to a human whose body has been partially or almost completely altered by the use of substitute artificial organs and parts.

The female cyborg suspended from the ceiling in the illustration to the left is over ninety percent machine. The only part of her original flesh-and-blood body that remains is her brain and spinal cord, and that, as the illustration shows, is inside a special shell. As she demonstrates, at first glance it is very difficult to tell the difference between a cyborg and a robot.

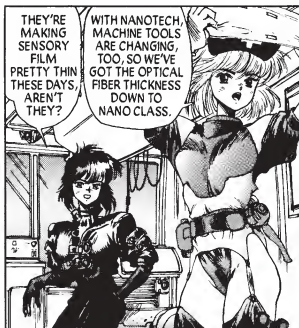
It is also difficult to imagine how artificial versions of some parts of the body—such as the endocrine system, the lymphatic system, the spleen, the liver, and the marrow—can ever be manufactured, so it is extremely doubtful that we will ever see a cyborg as mechanized as the one here, but there are indeed many other manmade body parts that are already available (and it's a growing field). For those who read Japanese and are interested in knowing more, allow me to suggest the now slightly dated book, *Biomaterials—An Approach to Artificial Organs*, published by Nikkan Kogyo Shimbun. The author is Dr. Yoshito Ikada.



HOW
ABOUT
THE BRAIN
WAVES
AND THE
COATING?

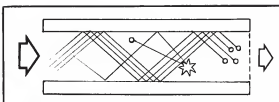
WE'VE
GOT A
SPINDLE
ON THE
BRAIN
WAVES.

THE
PACKING
AND THE
COATING
ARE BOTH
READY.

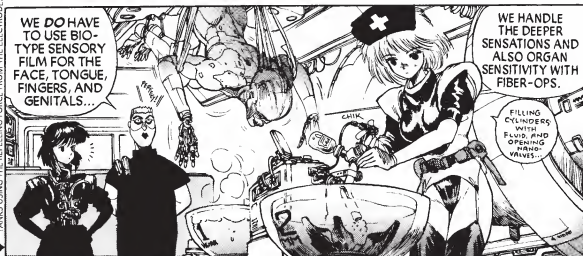


THEY'RE MAKING SENSORY FILM PRETTY THIN THESE DAYS, AREN'T THEY?

WITH NANOTECH, MACHINE TOOLS ARE CHANGING, TOO, SO WE'VE GOT THE OPTICAL FIBER THICKNESS DOWN TO NANO CLASS.



Many readers may think "What?!" at the idea of using fiber-optic film to detect pressure and temperature in cyborgs. But what makes this concept interesting is that it's already possible today. Light doesn't just run from one end of a fiber to the other. It collides with particles inside the fiber, and is therefore reflected, so a certain amount actually returns to the point of entry. If, in part of the optical fiber, heat is applied to alter the status of the particles, there will also be a change detectable in the light that returns to the point of entry. This change makes it possible to detect the distance from the point of entry, and also the degree of change. This effect can be used with a type of cloth woven of fiber optics (what is referred to as a "film"; research is apparently being done to make clothes that glow, or safety clothes). Here I'm using the same principle for a type of skin. From the perspective of micromachining, they're using a rather rough approach in the story, but it's fairly inexpensive, and therefore essential to reduce the manufacturing cost of cyborgs.

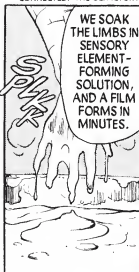


WE DO HAVE TO USE BIO-TYPE SENSORY FILM FOR THE FACE, TONGUE, FINGERS, AND GENITALS...

WE HANDLE THE DEEPER SENSATIONS AND ALSO ORGAN SENSITIVITY WITH FIBER-OPS.

FILLING CYLINDERS WITH FLUID, AND OPENING NANO-VALVES.

AT THIS POINT THE TONGUE AND GENITALS HAVE ALREADY BEEN THROUGH THE PROCESS DESCRIBED BELOW AND ARE CONNECTED. THE OLFACTORY SENSE IS SET EVEN BEFORE THIS, MECHANICALLY.



WE SOAK THE LIMBS IN SENSORY ELEMENT-FORMING SOLUTION, AND A FILM FORMS IN MINUTES.

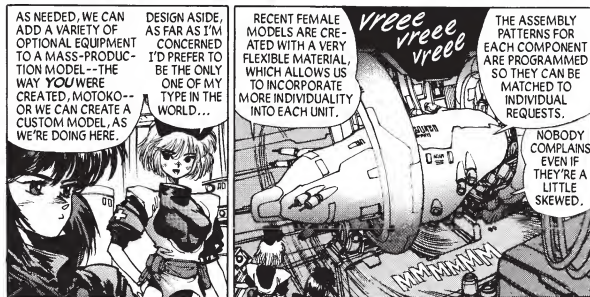
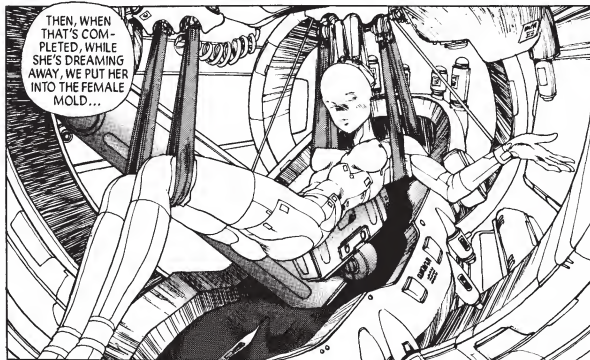
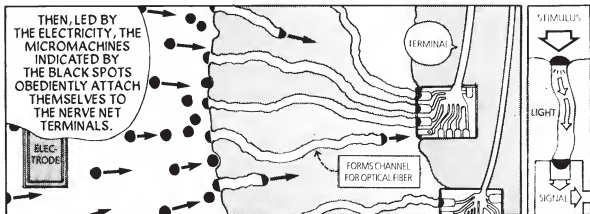


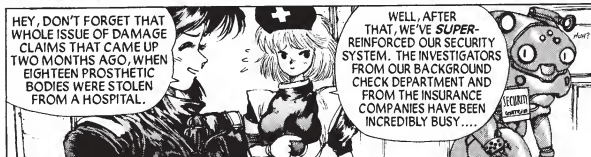
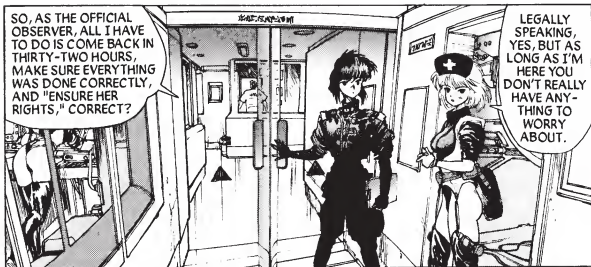
WE TAKE THE UTMOST CARE TO AVOID ANY UNEVENNESS.



THEN WE SOAK IT IN THIS MM SOLUTION...

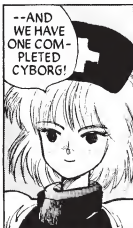
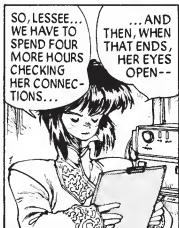
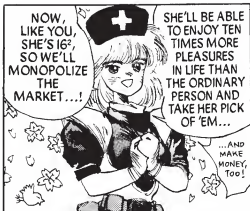
...AND APPLY A TINY ELECTRICAL CURRENT TO THE ELECTRODES.



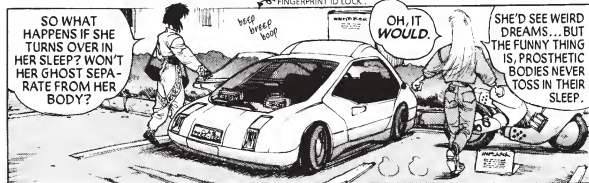
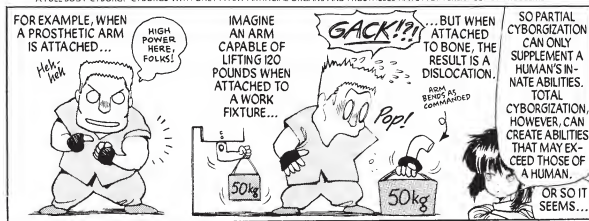


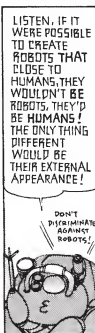
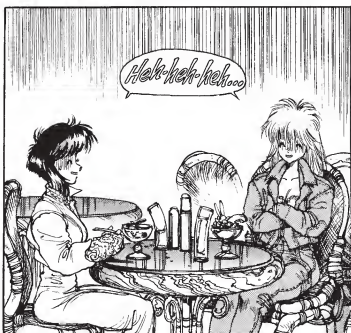
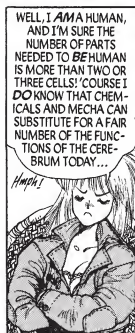
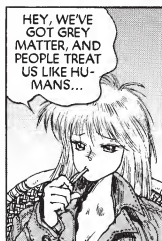
AND SO, THIRTY-TWO HOURS LATER...





FINGERNAILS ARE APPLIED BY A SPECIALIST FOR CUSTOM ORDERS, A SPECIFIC ARTIST USUALLY DOES BODY DESIGNS. THE ABOVE DESCRIBES A FULL-BODY CYBORG. CYBORGs WITH ONLY A FEW ARTIFICIAL ORGANS AND PROSTHESES HAVE A DIFFERENT SET OF PROBLEMS





06

ROAD
ROND0

10. 2029





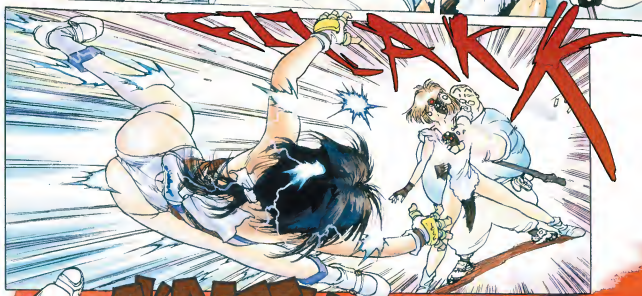
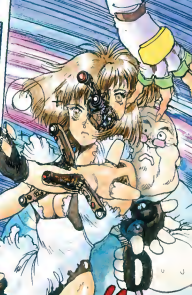
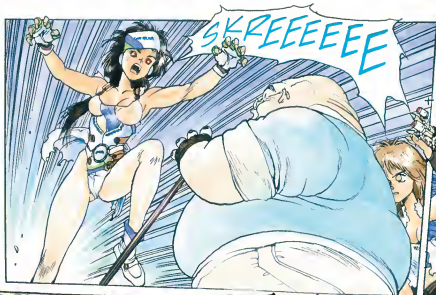
DID YOU
CALL ME,
COLONEL?

UH, HUH...
I'M STARTIN'
TO SWEAT A BIT,
DEAR... Y'MIND
WIPING IT
OFF?

VREE
KK

?!
?

ROBOTS DON'T SMILE
BECAUSE THEY WANT
TO. THEY'RE JUST PRO-
GRAMMED TO DO SO-
LIKE HUMANS RECENTLY.



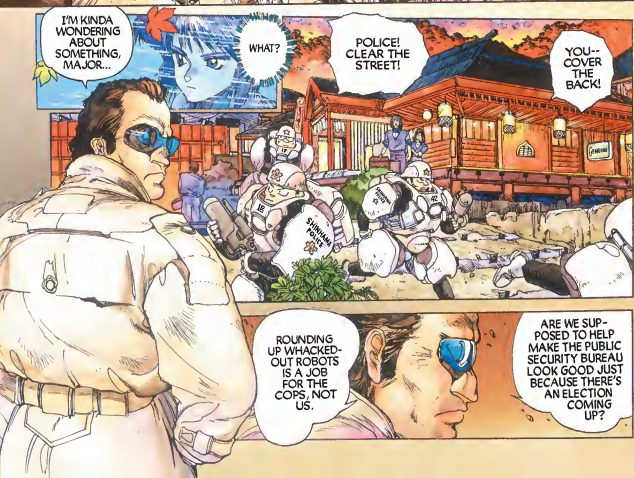
DANGER-
OUS
MOVE-
MENT HAS
TERMINA-
TED. NOW
MODE
SHIFTING
TO NOR-
MAL.

YOU
REALLY
THINK A
TOMLIAND
PROTO-
TYPE...

...W-WOULD
HATE
WIPING
OFF MY
SWEAT
THAT
MUCH...?

WAKE
AND
DIE!





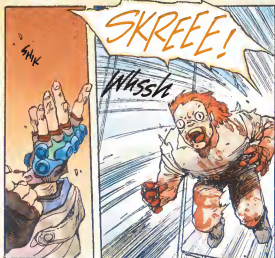
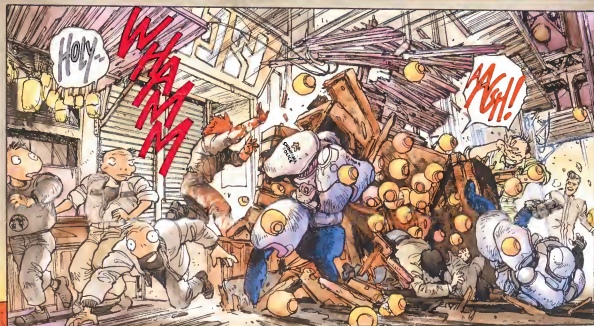
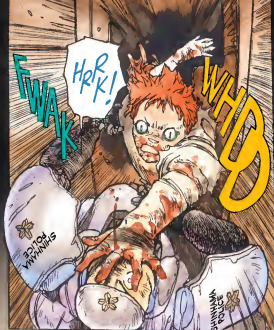
THAT
GODDAMN
APE-FACE
ARAMAKI.
Y' THINK THE
MINISTER OF
INTERNAL AF-
FAIRS PAID
HIM OFF?

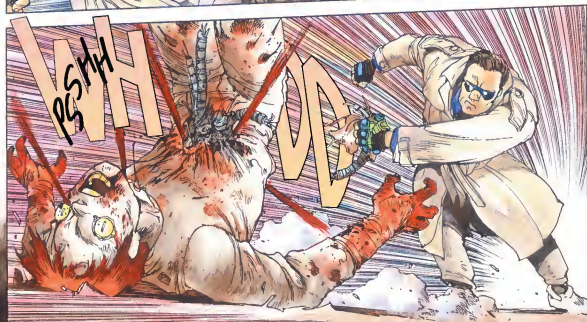
WE'RE ONLY
AFTER TOMLIAND
PROTOTYPES MADE
BY HANKA PRECISION
INSTRUMENTS. ANY
OTHER ASSORTED
JUNK IS FOR THE
COPS TO
COLLECT...

SPRK
SPORT SUB

FWUMP

I...
I
FOUND
IT!

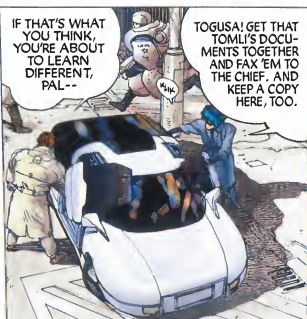
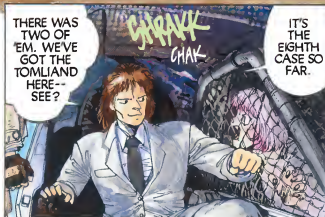
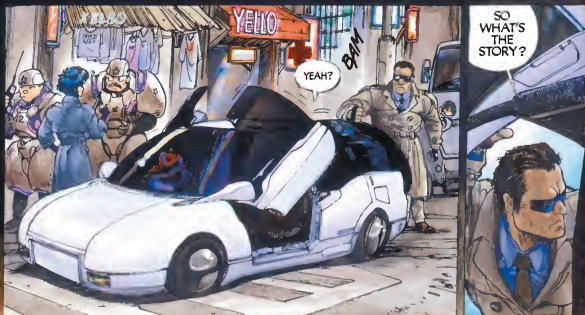




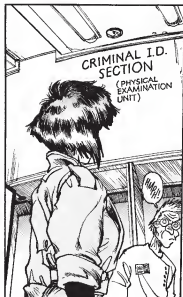
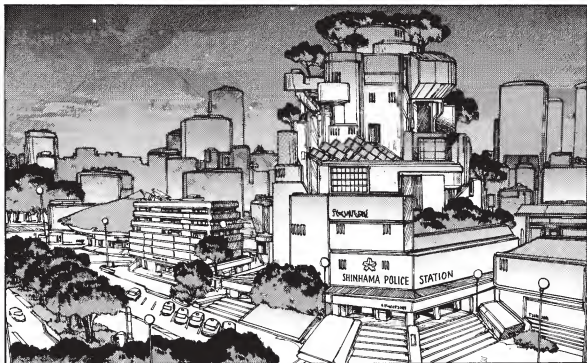
WELL,
SHIT--
THIS AIN'T
EVEN A
TOMLIAND...

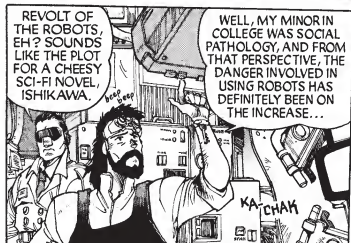
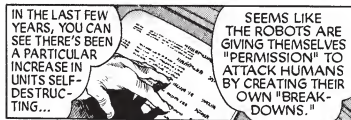


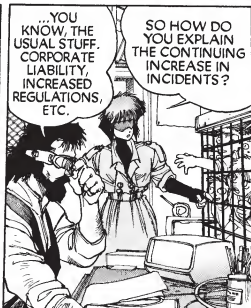
WASTE A'
GOD-DAMN
EFFORT...





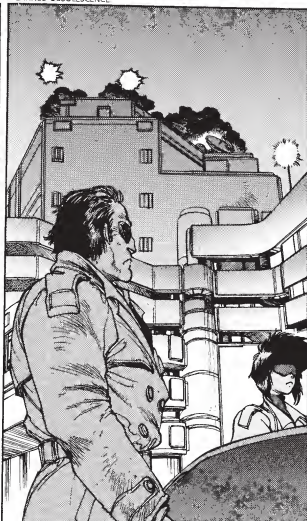
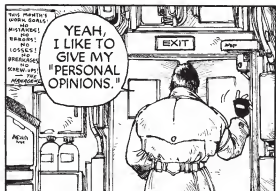
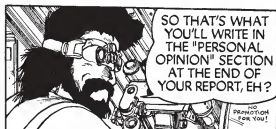


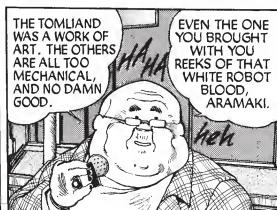
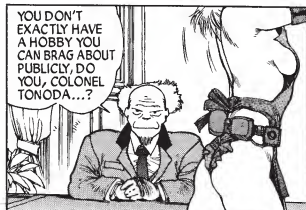


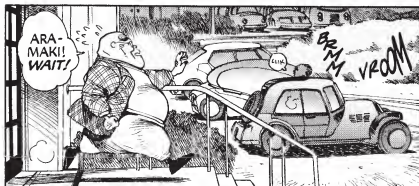




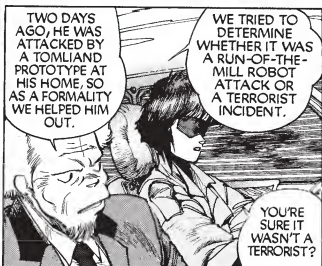
WOULDN'T WORK. TOO EXPENSIVE, AND CONFLICTS WITH PLANNED OBSOLESCENCE

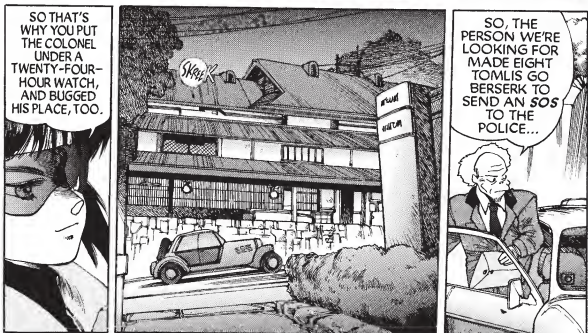
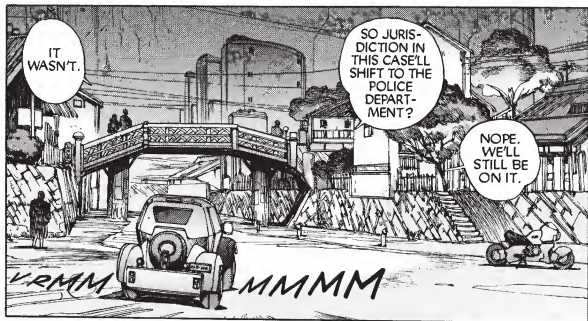


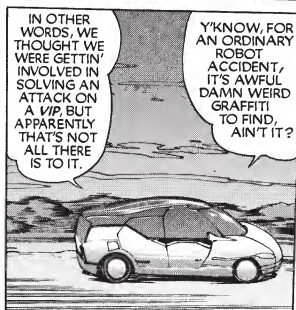
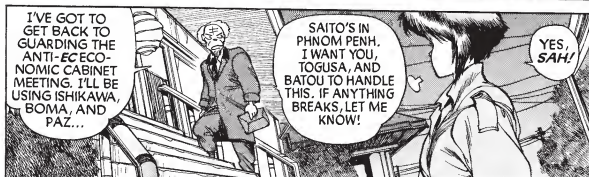
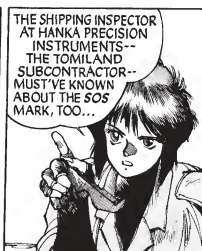


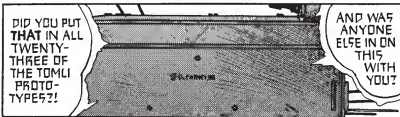
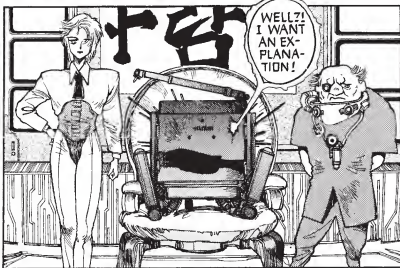


THE CURRENT INFORMATION DEPARTMENT.

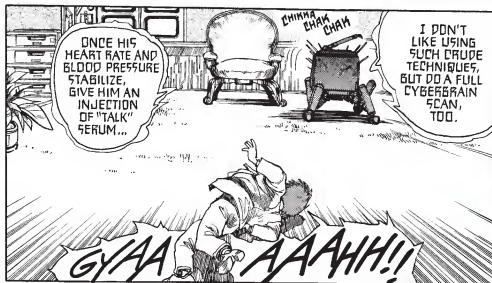
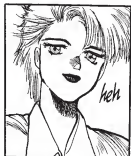






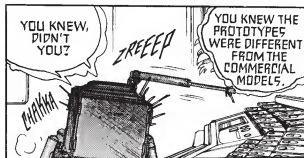


AND WAS
ANYONE
ELSE IN ON
THIS
WITH
YOU?



ONCE HIS
HEART RATE AND
BLOOD PRESSURE
STABILIZE,
GIVE HIM AN
INJECTION
OF "TALK"
SERUM...

I DON'T
LIKE USING
SUCH CRUDE
TECHNIQUES,
BUT DO A FULL
CYBERBRAIN
SCAN,
TOO.



YOU KNEW,
DIDN'T
YOU?

YOU KNEW THE
PROTOTYPES
WERE DIFFERENT
FROM THE
COMMERCIAL
MODELS.

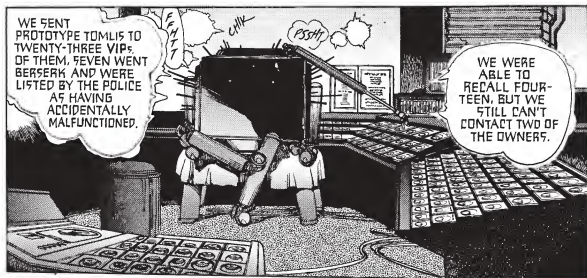


I'LL
REPORT
YOU
TO THE
LABOR
UNION!!

"LABOR UNION"?
WITH OUR NEW,
UNMANNED
FACTORY, WE
WON'T NEED
ONE OF THOSE
FOR THE NEXT
THREE
HUNDRED
YEARS.



THAT THEY
WERE A
"SPECIAL
PRO-
DUCT"...



WE SENT
PROTOTYPE TOMLIS TO
TWENTY-THREE VIPs
OF THEM. SEVEN WENT
BERSERK AND WERE
LISTED BY THE POLICE
AS HAVING
ACCIDENTALLY
MALFUNCTIONED.

WE WERE
ABLE TO
RECALL FOUR-
TEEN, BUT WE
STILL CAN'T
CONTACT TWO OF
THE OWNERS.



IF THE POLICE HEAVY
ARMOR UNITS HAD
DESTROYED THE
CYBERBRAIN CASE,
THERE WOULD
HAVE BEEN NO
PROBLEM.

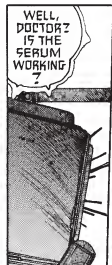


BUT WE DON'T
WANT THE SOFT-
WARE IN THEM
TO BE ANALYZED
WHILE IT'S
STILL FUNC-
TIONAL...



I... SET IT UP...
SO ALL TWENTY-
THREE WOULD...
GO BERSERK...
THEN WROTE...

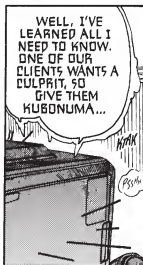
...THE SOS
ON THE
CYBERBRAIN...
I WAS ASKED BY
LINK AND ADAM
IN STAGE FOUR...
IN EXCHANGE...
FOR... TWO
NIGHTS WITH
THEM...



WELL,
DOCTOR?
IS THE
SERUM
WORKING
?



YESSIR.
WITH FULL
EFFECT.

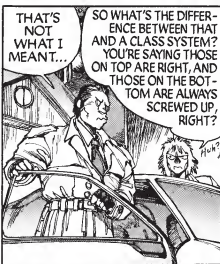
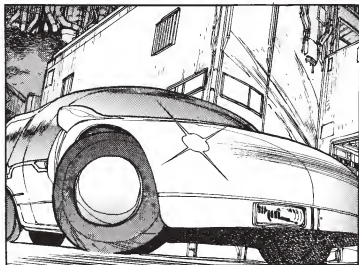
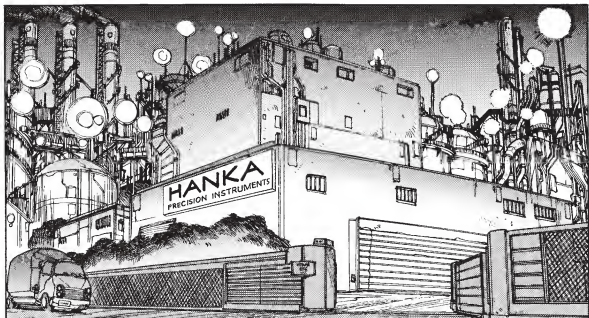


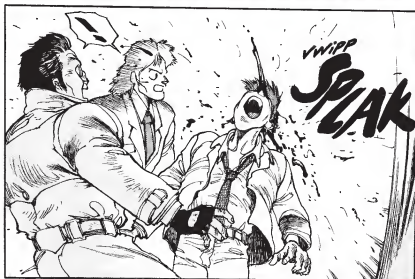
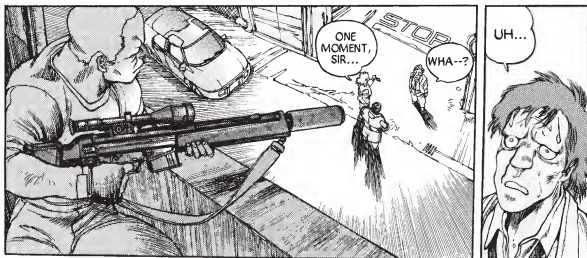
WELL, I'VE
LEARNED ALL I
NEED TO KNOW.
ONE OF OUR
CLIENTS WANTS A
CULPRIT, SO
GIVE THEM
KUBONUMA...

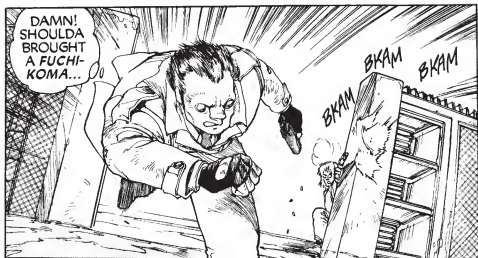


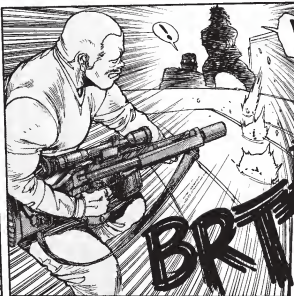
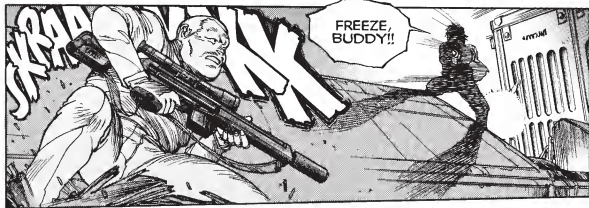
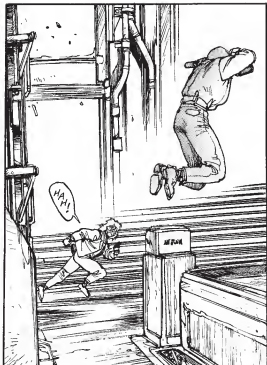
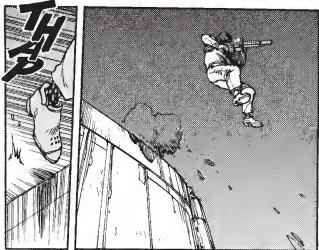
YESSIR.

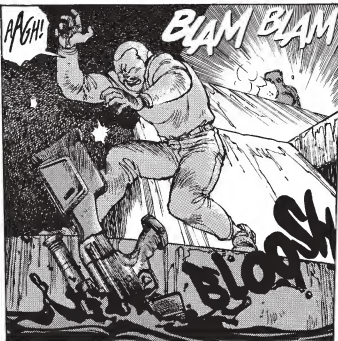
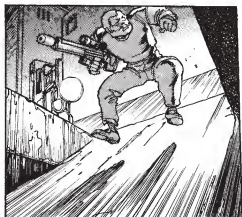
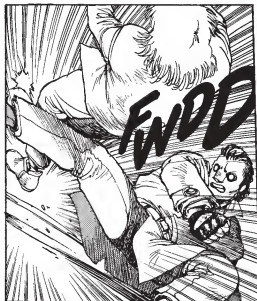
BUT... BUT IF YOU
PERSONALLY...
TOOK
RESPONSIBILITY...
WORKERS COULD
KEEP THEIR
JOBS...











ANY TROUBLE
AND YER DEAD
MEAT! COME
OUT WITH BOTH
HANDS UP,
ASSHOLE!



FUCHI-KOMA?!

WELL, GOOD WORK. NOW CHECK OUR PERIMETER-- THIS GUY MAY HAVE SOME PALS AROUND. START WITH PHONE BOOTHS AND CARS IN THE AREA.

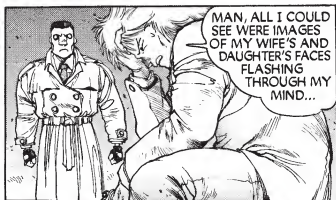


THE MAJOR TOLD ME TO TAG ALONG AND HELP OUT IF THERE WAS TROUBLE...

FEIGNED MODESTY

NEVER THOUGHT I'D BE ANY HELP...

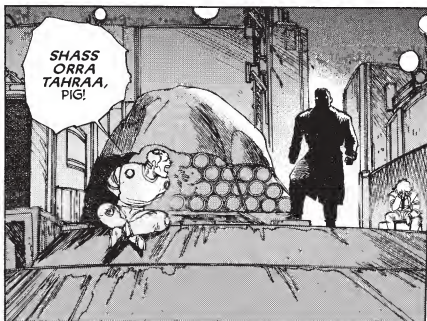
heh heh



MAN, ALL I COULD SEE WERE IMAGES OF MY WIFE'S AND DAUGHTER'S FACES FLASHING THROUGH MY MIND...

NOT YER WIFE AND KID, PAL.

THOSE WERE THE GODDESSES OF DEATH.

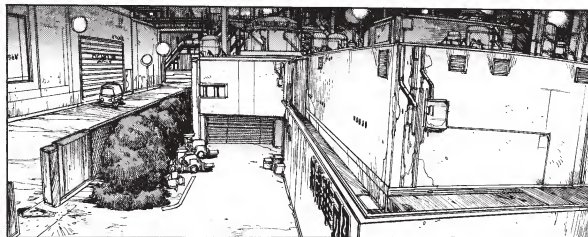
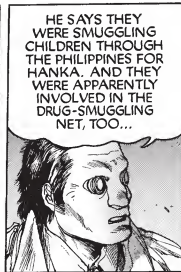


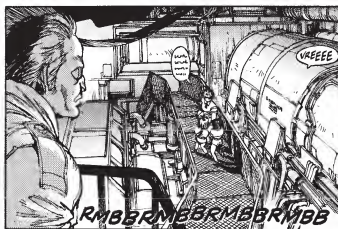
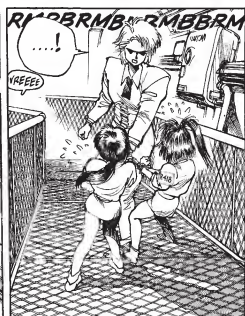
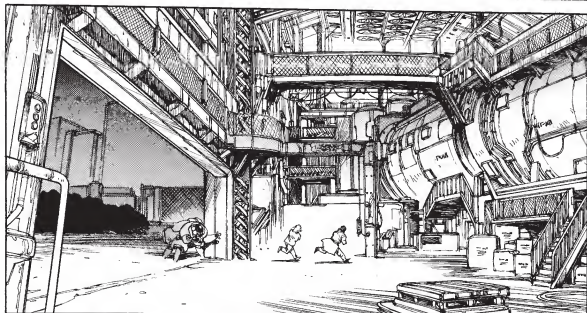
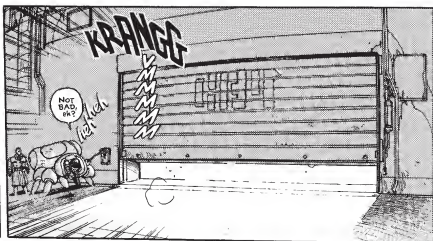
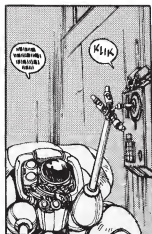
SHASS ORRA TAHRAA, PIG!

WHEN ME GET OUTTA PRISON, ME GONNA KILL YOU! JUST WAIT, PIG-MAN!

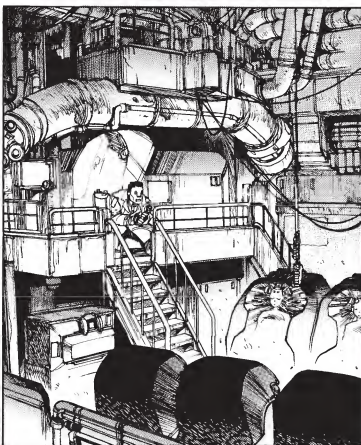
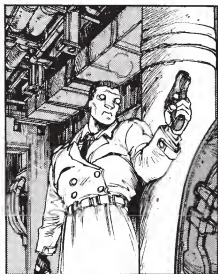
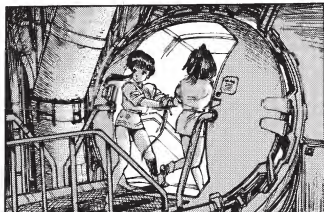
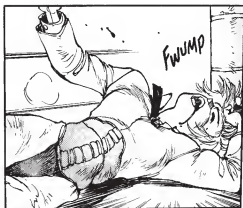


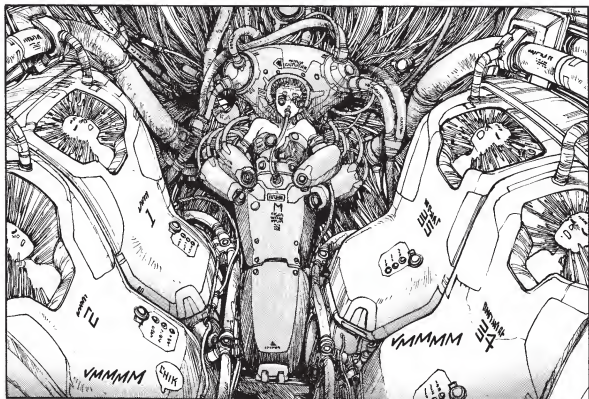


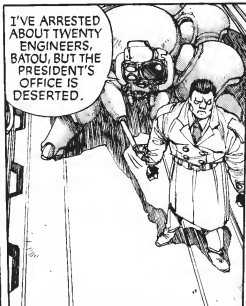
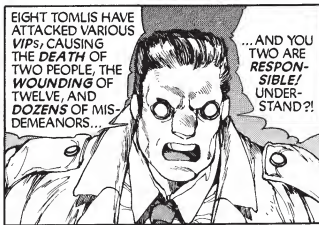
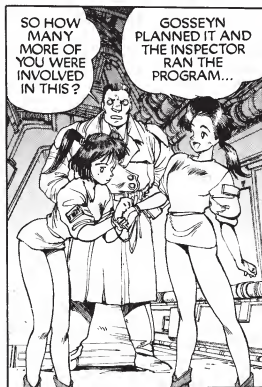


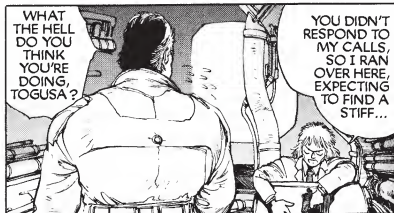
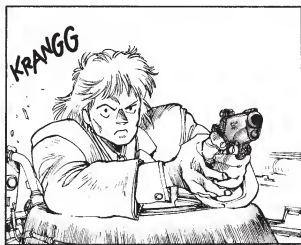












WHAT THE HELL DO YOU THINK YOU'RE DOING, TOGUSA?

YOU DIDN'T RESPOND TO MY CALLS, SO I RAN OVER HERE, EXPECTING TO FIND A STIFF...

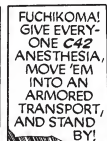


THIS ROOM'S A FARADAY CAGE.

BLOCKS ALL EM INTERFERENCE.



VERY FASCINATING, BUT THE COMPANY PRESIDENT JUST SKIPPED IN A CAR!



FUCHIKOMA! GIVE EVERYONE C42 ANESTHESIA, MOVE 'EM INTO AN ARMORED TRANSPORT, AND STAND BY!

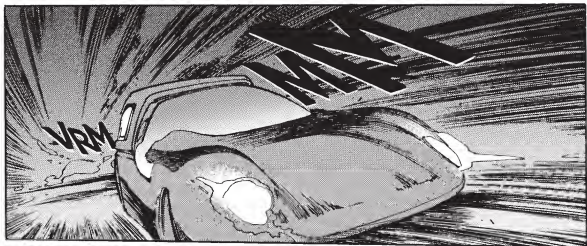


WHY DIDN'T YOU TELL ME? LET'S GO!

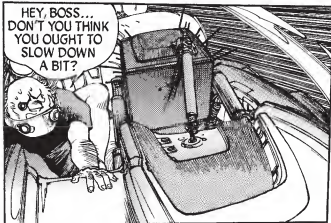


HEY, THEY'VE GOT SOME RIGHTS, TOO, YOU KNOW.

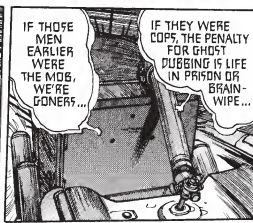
IF EVERYONE HAD ALL THEIR RIGHTS THE WORLD'D BE AT PEACE AND WE'D BE OUT OF A JOB!



HEY, BOSS...
DON'T YOU THINK
YOU OUGHT TO
SLOW DOWN
A BIT?



IF THOSE
MEN
EARLIER
WERE
THE MOB,
WE'RE
GONERS...



IF THEY WERE
COPS, THE PENALTY
FOR GHOST
DUBBING IS LIFE
IN PRISON OR
BRAIN-WIPE...

IF YOU'RE SO
WORRIED, WHY'D
YOU BRING ALONG
FIVE ROBOTS?! THIS
IS ONLY A V-8--
IT'LL OVERHEAT!



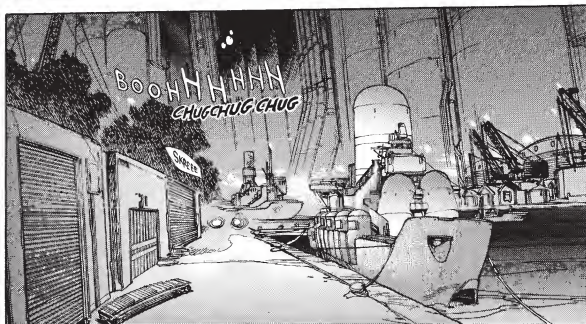
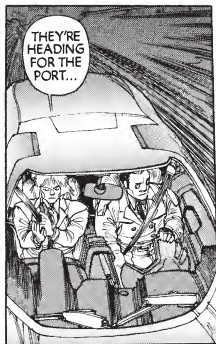
IF THAT'S ALL
YOU'RE WORRIED
ABOUT, GET OUT!
I CAN REPLACE A
DOCTOR IN THREE
DAYS, BUT NOT
THESE
ROBOTS.

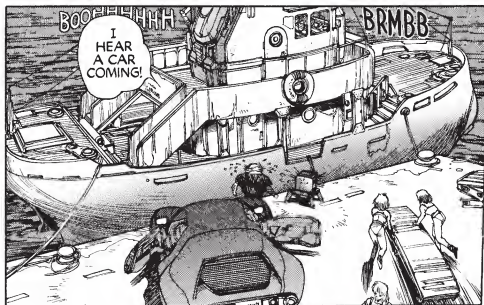
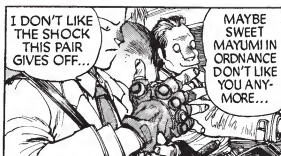
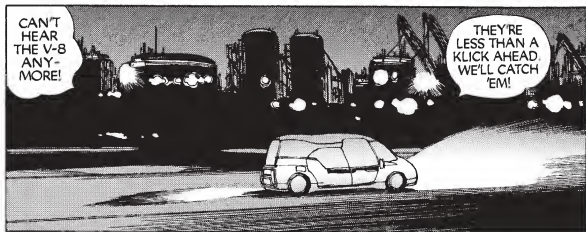
I NEED THEM
TO MAKE ENOUGH
MONEY SO I
CAN REACH A
SETTLEMENT WITH
THE MOB... OR
THE COPS,
IF I HAVE
TO...

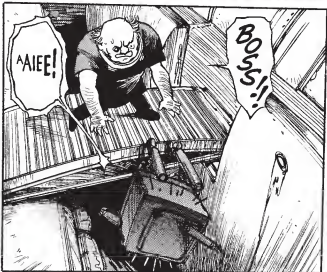
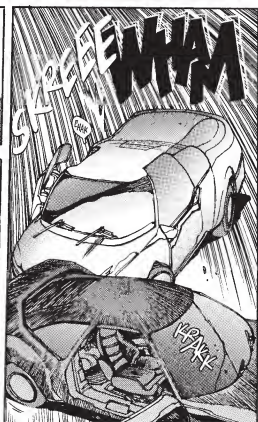
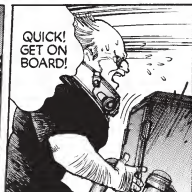


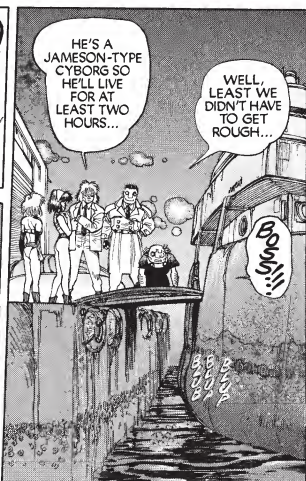
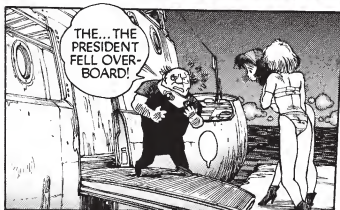
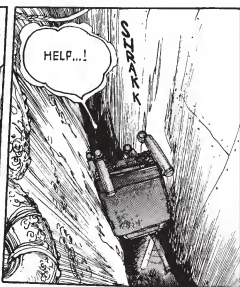
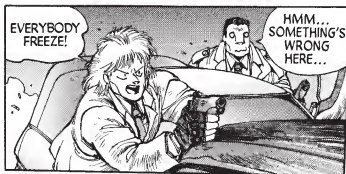
VRM MMM









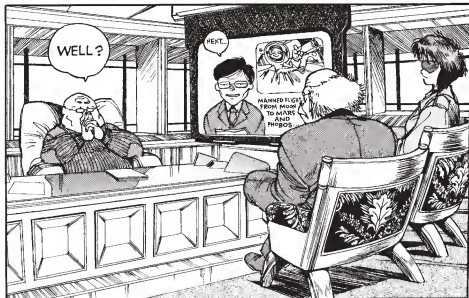


WITH THE ASSISTANCE OF THE COAST GUARD, THE PRESIDENT OF HANKA PRECISION INSTRUMENTS WAS SALVAGED AND ARRESTED...



PRESIDENT OF HANKA PRECISION INSTRUMENTS ARRESTED!!

THE PRESIDENT IS COMPLETELY MECHANIZED EXCEPT FOR HIS SPINAL CORD AND BRAIN. AN INVESTIGATION WILL BE CONDUCTED TO DETERMINE WHETHER THIS CRIME WAS COMMITTED BY HIS GHOST, OR WHETHER IT WAS A MECHANICAL MAL-FUNCTION.



WELL?

HEXTL

HANKA PRECISION INSTRUMENTS TO MARK AND PHOBOS

HE APPARENTLY COULDN'T KEEP UP WITH HIS COMPETITORS IN AI DEVELOPMENT...



...SO HE USED THE MOB TO SMUGGLE IN KIDS. HE "EDUCATED" THEM WITH DRUGS, AND TURNED THEM INTO NEAR-ROBOTS.



THEN HE DUBBED THEIR GHOSTS INTO HIS OWN COMPANY'S MACHINES AND GAVE THEM TO SPECIAL CUSTOMERS.

THE HANKA FACILITY WAS BUILT ON THE FORMER SITE OF THE OLD INTELLIGENCE DIVISION'S TRAINING CENTER... AND THE HEAD OF THE CENTER WHEN IT MOVED, COLONEL, WAS NONE OTHER THAN YOU...



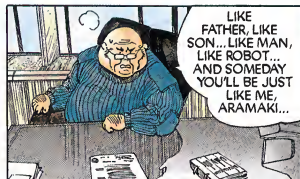
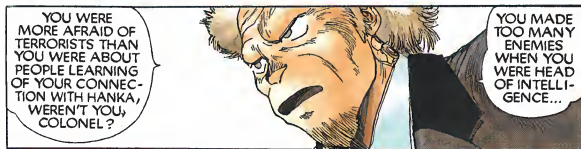
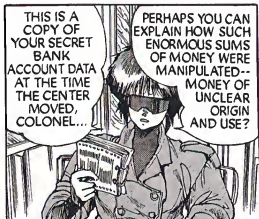
COME ON, NOW... I WAS AN OFFICIAL MEMBER OF THE HANKA MONITORING COMMITTEE, SO PROTOTYPES WERE NATURALLY SENT TO ME FOR EVALUATION, BUT I DIDN'T KNOW HOW THEY WERE MANUFACTURED!

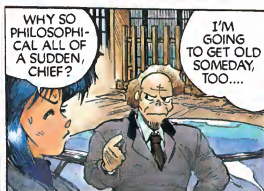
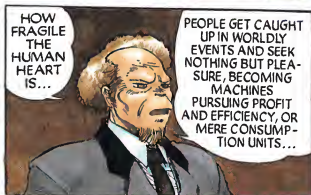
keh keh



AND I WAS ONE OF THOSE "SPECIAL CUSTOMERS"?







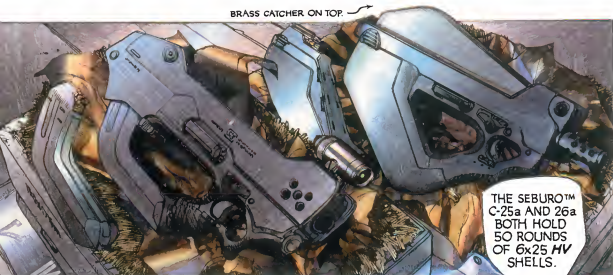


07

THE
PUN

24 12 2022

BRASS CATCHER ON TOP.



THE SEBUORO™
C-25a AND 26a
BOTH HOLD
50 ROUNDS
OF 6x25 HV
SHELLS.

7.62 MAGAZINE SAME AS THE FN-P90.

SO, WHEN YOU
DON'T HAVE THE
BRASS CATCHER
ATTACHED, THE
SHELLS ARE
EJECTED
FORWARD?

SEEMS TO
ME IT'D
TEND TO
JAM...

ORDNANCE #4
(SMALL ARMS)

HEY, YOU GOT
ANY IDEA HOW
MANY MONTHS WE
SPENT TESTING
THAT THING
?!

LOOK AT
THESE
CALLOUSES,
WILL YA?!
I AIN'T
KIDDING!

HAAAA
YOU
LIAR!

WELL, PUT
A MATTE
FINISH
ON IT.

IF I GET
THE CHANCE,
I'LL TRY IT
OUT.

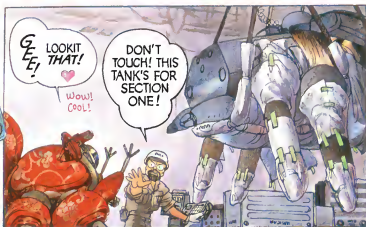
EE!
LOOKIT
THAT!

Wow!
COOL!

DON'T
TOUCH! THIS
TANK'S FOR
SECTION
ONE!

Help
Help

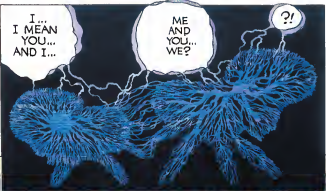
Help





Huh?!
ONLY THE
BRAIN'S
BEEN ACTI-
VATED?

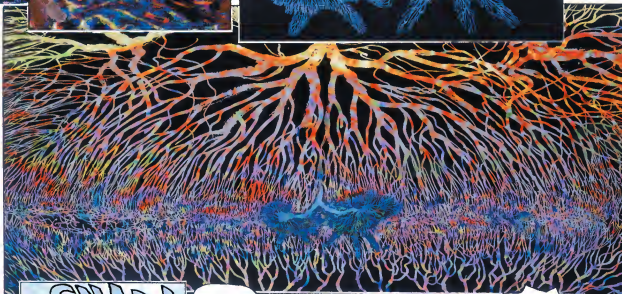
HMM... NO
BARRIER?!



I...
I MEAN
YOU...
AND I...

ME
AND
YOU...
WE?

?!?



SNAP!

CHIEF'S
CALLING...
LET'S
GO!

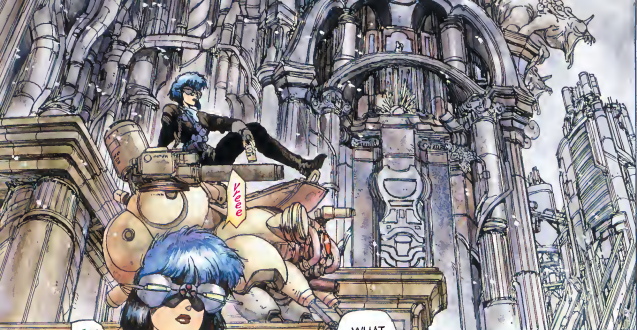
WHA--!?



B-BUT
I WAS
ON THE
VERGE
OF A
PROFOUND
INSIGHT!

DAMN ... NO
CLEAR DATA
RECORD, BUT I
KNOW IT WAS
SOMETHING
TERRIBLY
PROFOUND!

YOU *DO*
REMEMBER
YOUR ROLE
AS MY
"SUIT," I
HOPE...



CHH
CHH
CHH

WHAT
IS IT?!

WE
DEMAND
THE
USE OF
NATURAL
OIL!

YEAH!

TELL
HER!
TELL
HER!

REQUEST
DENIED.

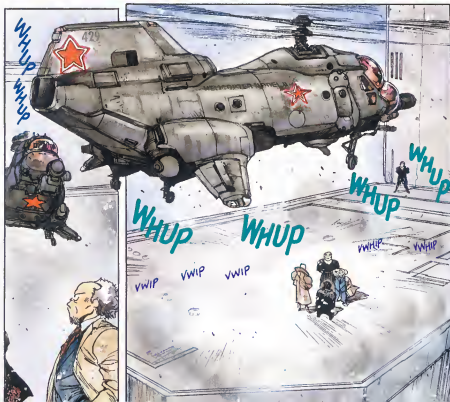
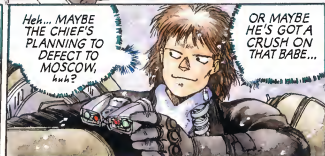
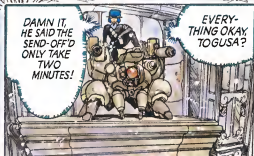
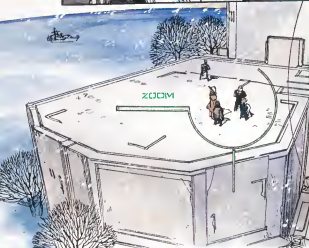
PLEASE!
ANY-
THING
BUT
SYNTHETIC!

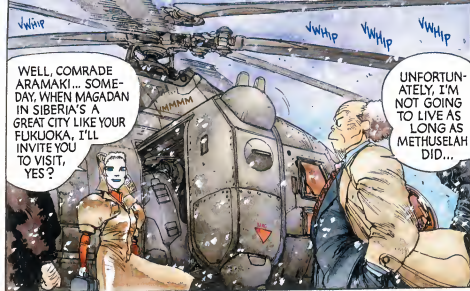
FLIP
FLOP
KICK

YOU WANT
PROBLEMS
WITH INSECTS
AND FUNGI AND
SEIZING? QUIT
YOUR BITCHING
AND KEEP UP
THE OBSER-
VATIONS!

BUT
MISTER
BATOU'S
THINK
TANK'S
USING
IT!

snivel,
whine





WELL, COMRADE ARAMAKI... SOMEDAY, WHEN MAGADAN IN SIBERIA'S A GREAT CITY LIKE YOUR FUKUOKA, I'LL INVITE YOU TO VISIT, YES?

UNFORTUNATELY, I'M NOT GOING TO LIVE AS LONG AS METHUSELAH DID...

OUR EXCHANGE DIDN'T BEAR MUCH FRUIT, BUT FOR BOTH OF US, AT LEAST, I THINK IT WAS WORTHWHILE.



IN PARTING, I'M GOING TO GIVE YOU A LITTLE PRESENT.



IF YOU MEAN THE CLIPPINGS FROM THE SOYUZ EVENING EDITION, I'VE ALREADY GOT THOSE.

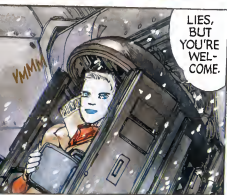


NO. I'M JUST LETTING YOU KNOW THAT MY SUCCESSOR, **ASECHINOV**, IS SOMEONE WHO WASN'T SELECTED BY THE CENTRAL COMMITTEE.

HE GOT HIS JOB THROUGH MONEY LAUNDERED BY GENERAL MARLOV, WHOM I BELIEVE YOU KNOW VERY WELL INDEED.



SINCERE THANKS FOR FINALLY TELLING ME SOMETHING I DIDN'T ALREADY KNOW.

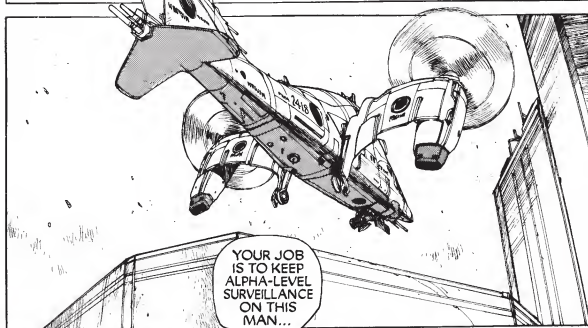
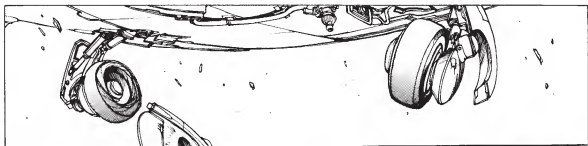


LIES, BUT YOU'RE WELCOME.



WE'RE FLYING NORTH!

ALL TEAM MEMBERS REPORT TO HELI-PORT!

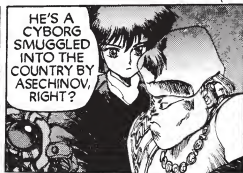


YOUR JOB
IS TO KEEP
ALPHA-LEVEL
SURVEILLANCE
ON THIS
MAN...

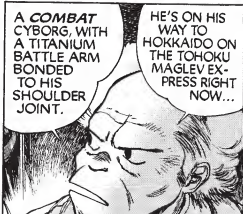


...KOIL
KRASNOV,
FOR 24 HOURS
A DAY. HIS
ESTIMATED
AGE, 26.

47%

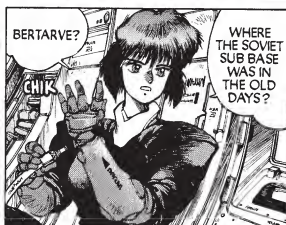
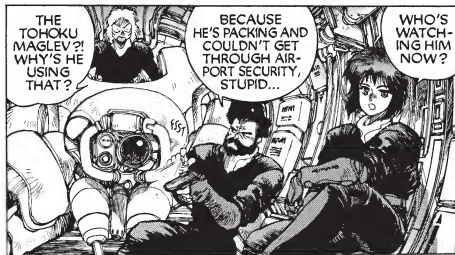


HE'S A
CYBORG
SMUGGLED
INTO THE
COUNTRY BY
ASECHINOV,
RIGHT?



A **COMBAT**
CYBORG, WITH
A TITANIUM
BATTLE ARM
BONDED
TO HIS
SHOULDER
JOINT.

HE'S ON HIS
WAY TO
HOKKAIDO ON
THE TOHOKU
MAGLEV EX-
PRESS RIGHT
NOW...



SPAK SPAK SPAK SPANG



GET
YOUR BUTT
DOWN!
YOUR CG'S
WAY TOO
HIGH!

JESUS, YOU USELESS
PUKES!! THIS AIN'T THE
STINKING OLYMPICS!!
WITH BIG TARGETS LIKE
HUMANS, DON'T WORRY
SO MUCH ABOUT
PUTTING FIVE IN THE
SAME HOLE--JUST
BLAST AWAY AT THE
CENTER OF MASS!

STEADY
YER VANCE!
GO!
GO!



MR. BATOU,
MAJOR
KUSANAGI
WANTS YOU
TO GO TO THE
"FAR NORTH" ...



REALLY!?!
ALL RIGHT!!
WELL, I
WASN'T CUT
OUT FOR
TRAINING,
ANYWAY....!

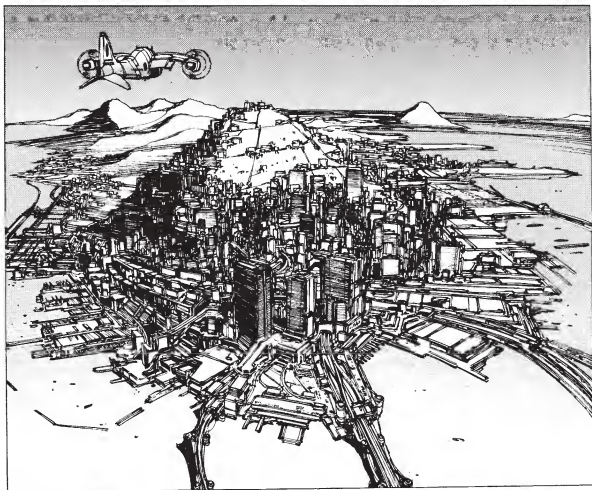
HEH HEH



SHIT!
THIS
THING'S
JAMMED
ON ME
AGAIN!

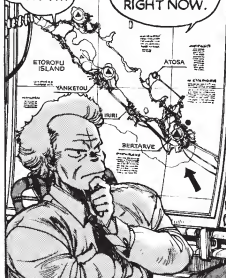
MR.
BATOU!!
SIGN
THESE!

STOP
WHINING,
IDIOT!
TEAR THE
GUN DOWN
AND
CLEAN
IT!

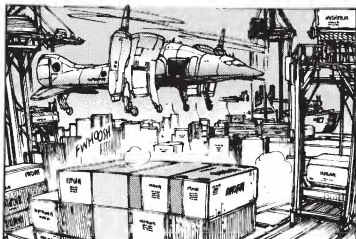


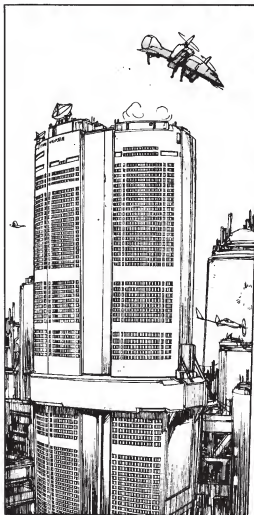
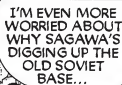
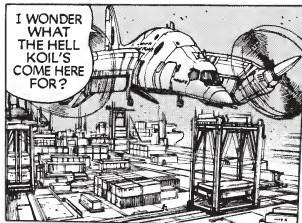
HMM...
BERTARVE'S
AN OLD-
STYLE
CYBER-
BRAIN-
CITY...

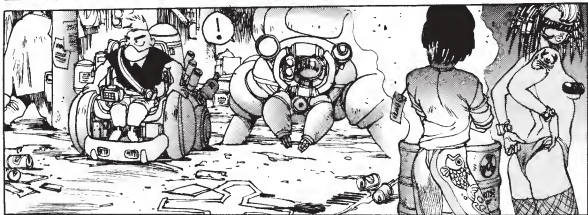
ALL THE
TOP SPIES ARE
COLLECTING AS
MUCH INFORMA-
TION AS THEY
CAN ON THIS
MACHINERY
RIGHT NOW.

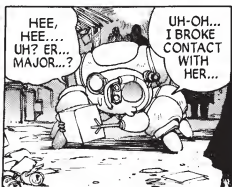
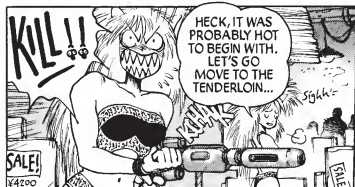
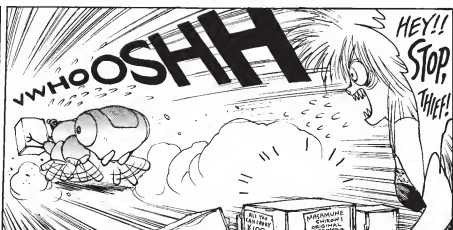
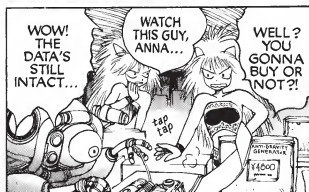
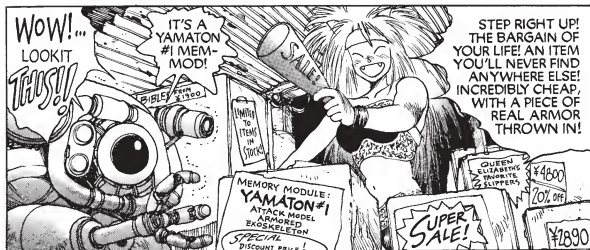


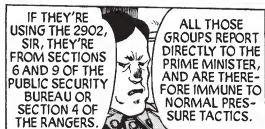
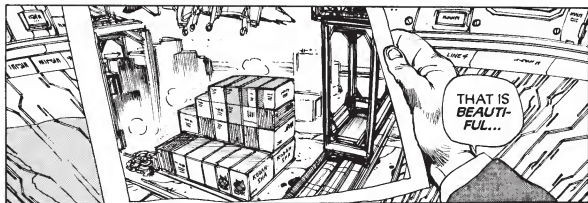
ISHIKAWA!
I WANT YOU TO
JOIN UP WITH
BATOU AND TAKE
OVER THE TAILING
FROM YANO. WE'LL
MEET AT 08:45 AT
GRIDREF 47-22.

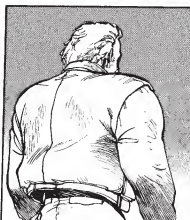
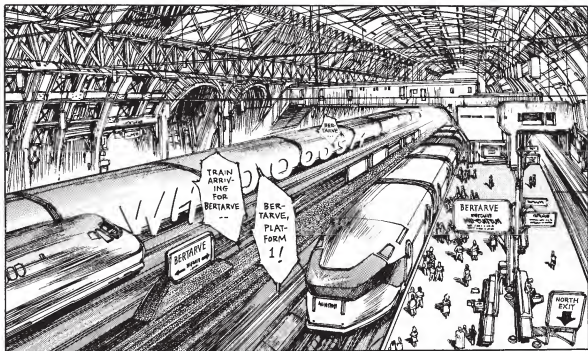


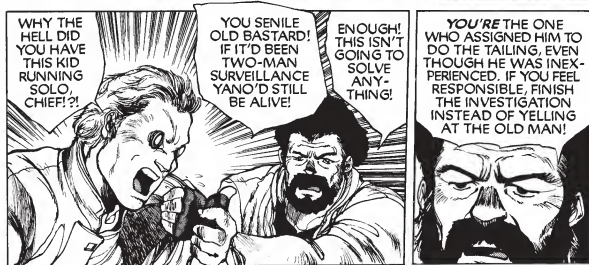
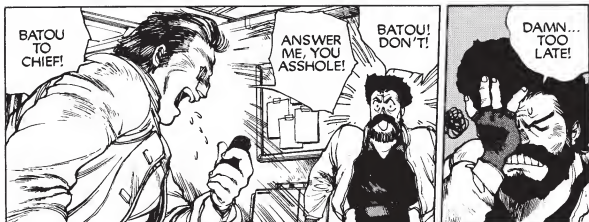


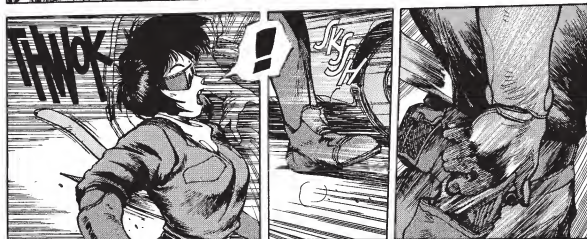
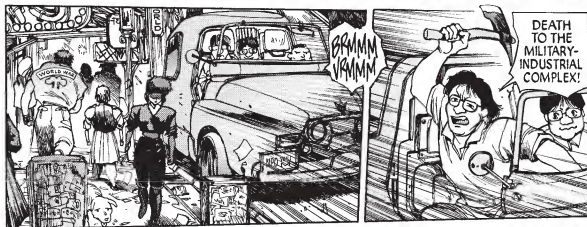


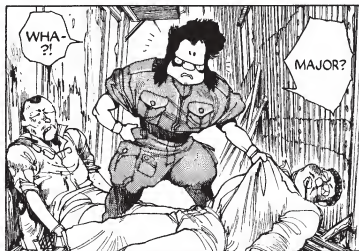
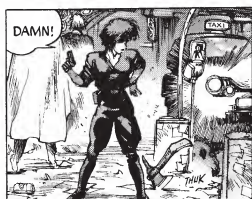
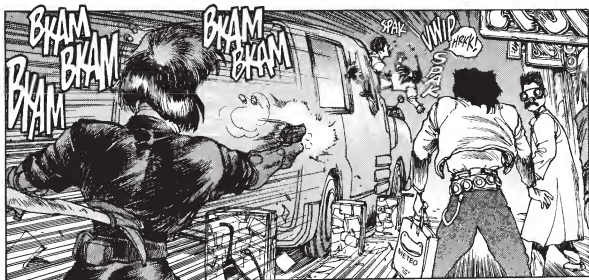




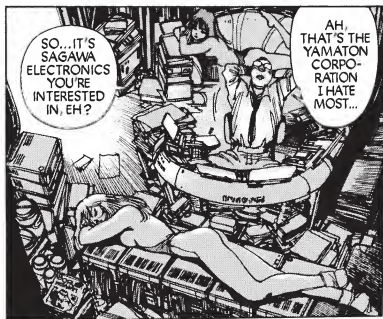












SO...IT'S
SAGAWA
ELECTRONICS
YOU'RE
INTERESTED
IN, EH?

AH,
THAT'S THE
YAMATON
CORPORATION
I HATE
MOST...

THEY WERE
THE FIRST
AND BIGGEST
VULTURES TO
SWOOP IN
HERE WHEN
THE SOVIETS
RETURNED
THE
NORTHERN
ISLANDS...

FRANKLY,
MY FRIENDS
AND I
DON'T EVEN
RECOGNIZE
A "RETURN"
THAT EXCLUDES
ALL THOSE
MILITARY
BASES...



SURE, I KNOW THE
JAPANESE GOVERNMENT
COALITION HAD INTRO-
DUCED A FAILED TAX
POLICY, THAT THERE WAS A
PUBLIC REACTION TO IT,
AND THAT THE OPPOSITION
JUST HAPPENED TO NEED
SOME SORT OF "EVENT"
TO GAIN POWER...

tak
takka
tak

...I ALSO KNOW
THE SOVIETS WANTED
CLOSER LINKS TO JAPAN
BECAUSE THEIR ENTRY
INTO THE EC MARKET
THROUGH THE GERMAN
CONNECTION HADN'T
PRODUCED THE HOPED-
FOR ECONOMIC
BENEFITS...



OH, YEAH,
AND THE MOSLEMS
HAD SLOWLY
BEEN APPLYING
PRESSURE ON
THE SOVIETS
FROM THE
SOUTH...

beep
AH,
HERE
WE GO!
ACCESS!



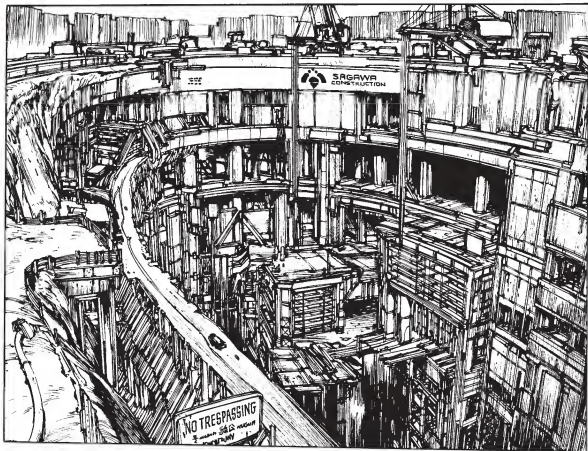
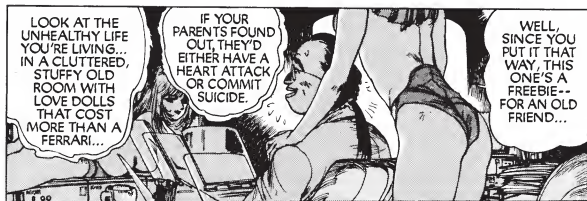
OKAY, GOT
A DIRECT LINK
TO THE HEAD
OF SECURITY'S
BRAIN AT
SAGAWA
ELECTRONICS
HEADQUAR-
TERS.

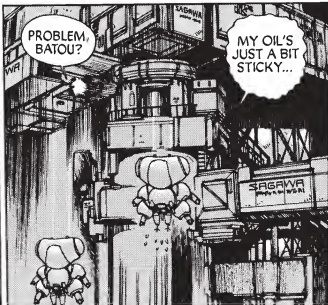
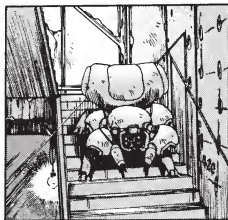
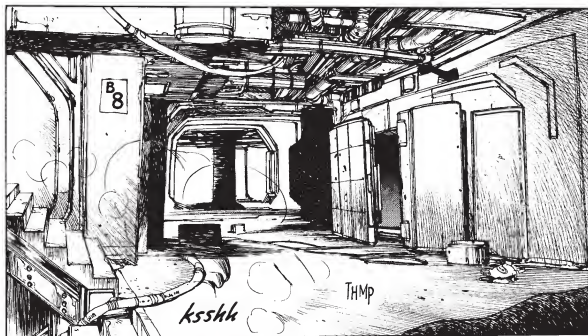
SO, YOU
WANT A
MAP OF
THE SECUR-
ITY NET?
AN ALL-
AREAS
PASS CARD?

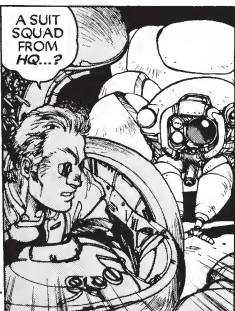
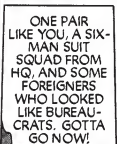
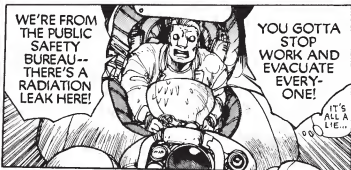
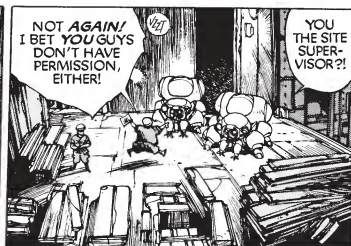
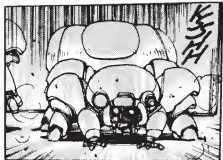


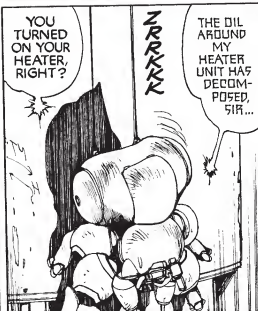
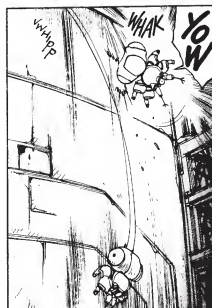
KROLDEN,
YOU SHOULD
NEVER HAVE
QUIT YOUR
JOB AT THE
CABINET PR
OFFICE...

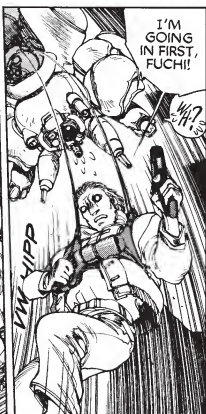
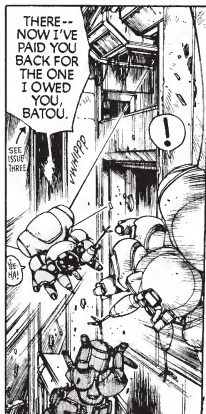
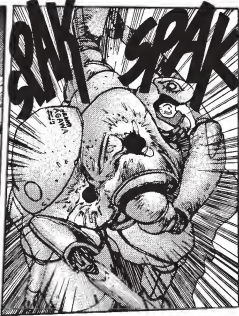
THAT A
COMPLI-
MENT?

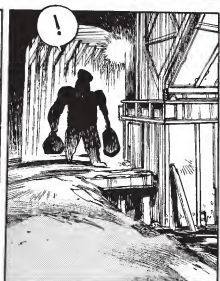
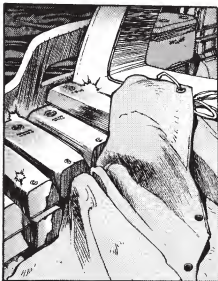
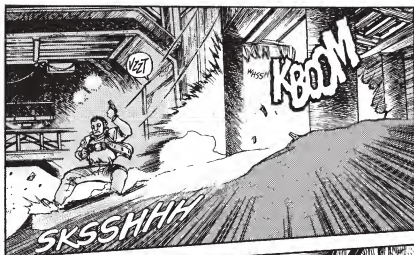


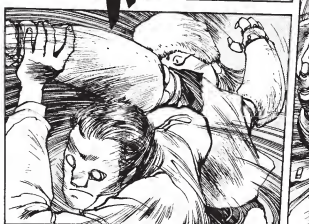
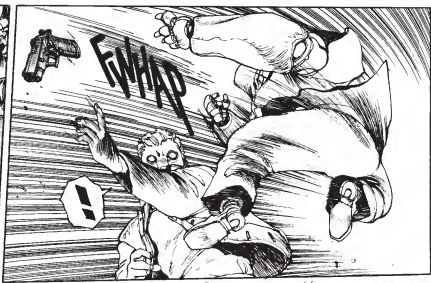


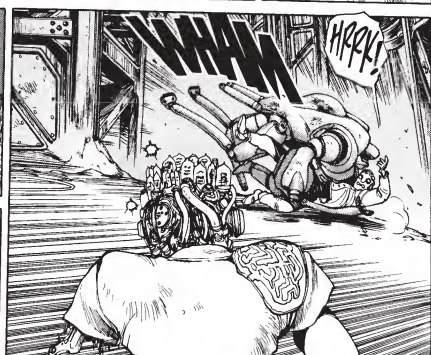




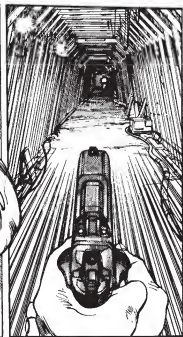
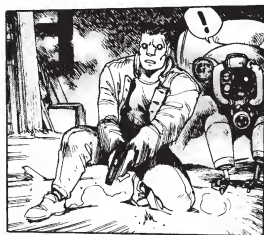


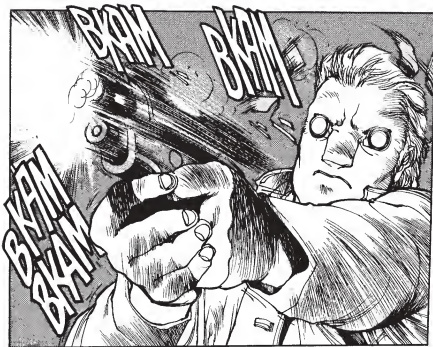










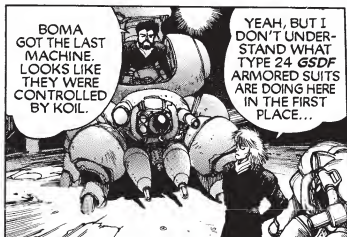


YOU DIDN'T HAVE TO KILL HIM, BATOU!!



DEAD MEN DON'T TALK... OR NAME NAMES WE NEED...

I KNOW THAT, YOU STUPID ASSHOLE!



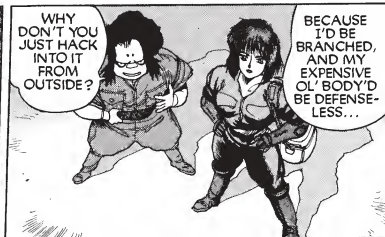
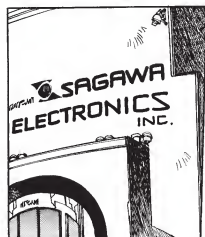
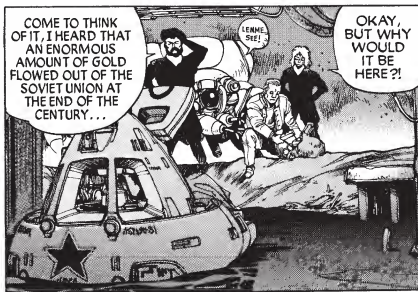
BOMA GOT THE LAST MACHINE. LOOKS LIKE THEY WERE CONTROLLED BY KOIL.

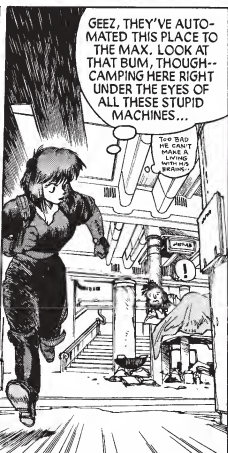
YEAH, BUT I DON'T UNDERSTAND WHAT TYPE 24 GSDF ARMORED SUITS ARE DOING HERE IN THE FIRST PLACE...

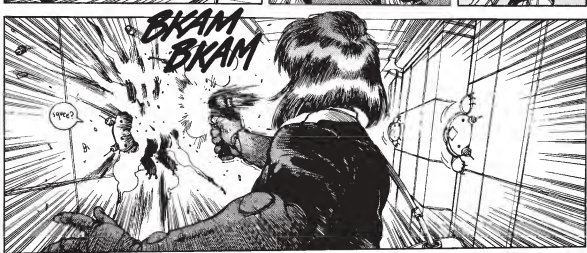
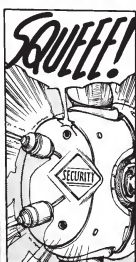
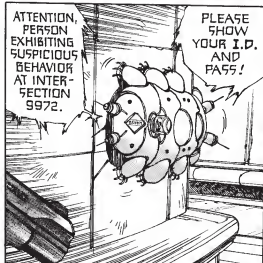
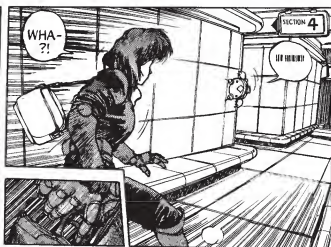
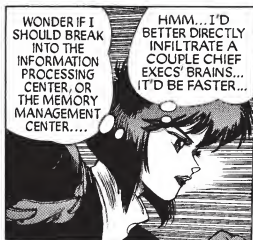


JUST 'CAUSE THEY MAKE 'EM HERE DOESN'T MEAN THEY SHOULD USE THEM...

THOSE ARE REAL GROUND SELF-DEFENSE FORCES MACHINES, ALL RIGHT... BRAINWASH 'EM AND THEY'RE STILL CLUMSY.





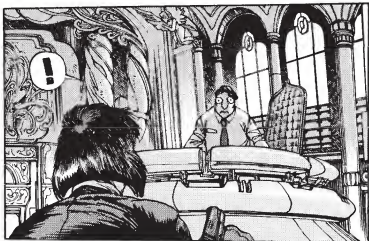




LISTEN TO ME! THERE'S NO RADIATION LEAK, SO DO AS I SAY!



IF YOU WANT TO KEEP YOUR JOB, PATCH THE DEMOLITION CHARGES OVER TO ME! I'M GOING TO BLOW THE WHOLE SECTION!



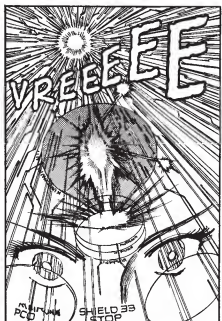
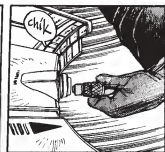
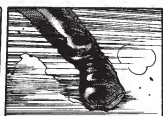
DON'T MOVE!

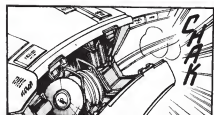
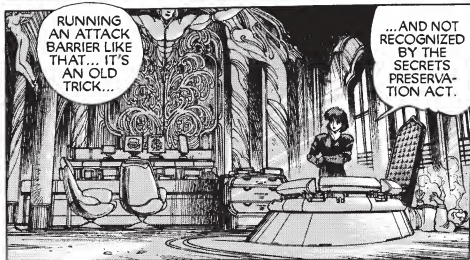
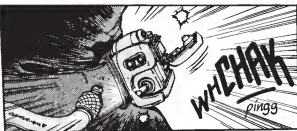
PUT YOUR HANDS WHERE--

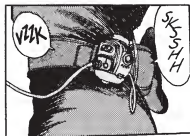


tak takka beep!





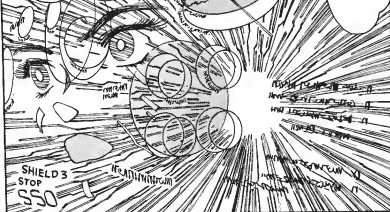
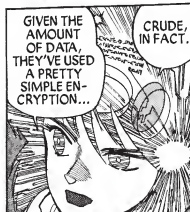


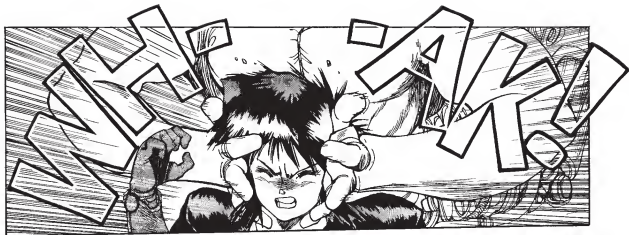


"3/5/1998, SELL
B ZONE TO K,
(M)...5/7/1998,
SELL **L** ZONE
TO M, (K)..."

"9/13/1998,
SELL **L** ZONE
TO K, (M)...
12/2/1998..."

WHAT
THE
HELL IS
THIS?



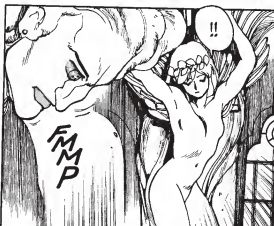
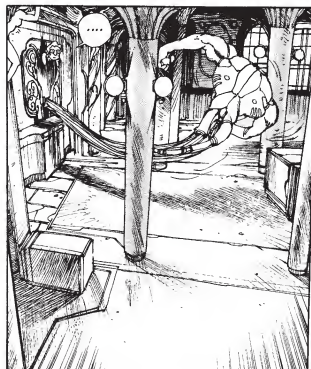
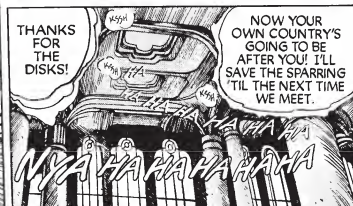


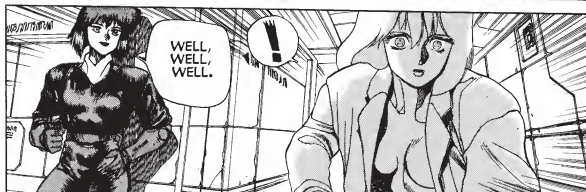
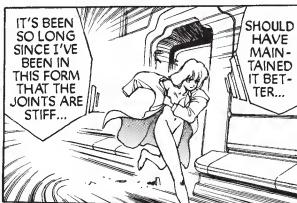
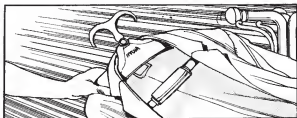
YOU'VE
GOT A
PRETTY
TOUGH
SKULL...

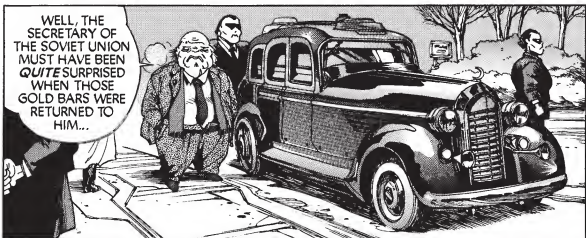
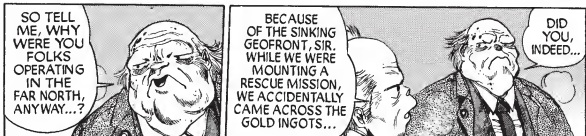
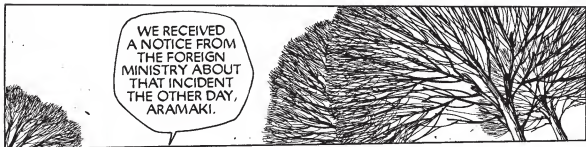
BUT I'M
AFRAID I'M
GOING TO
HAVE TO
TAKE IT
APART FOR
FURTHER
STUDY, LT.
KUSANAGI!

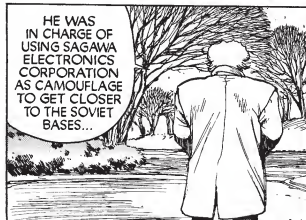
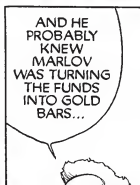
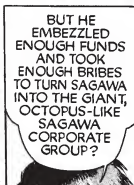


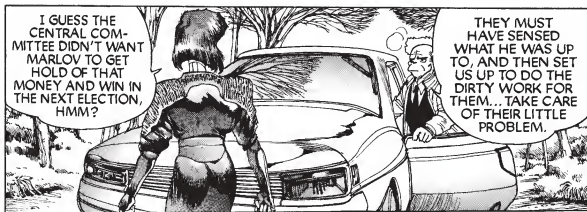
JUST
YOU TRY...
LT. COLONEL
SOHEI
KAGASAKI,
SPECIAL OP
FOR THE FAR
NORTH...!

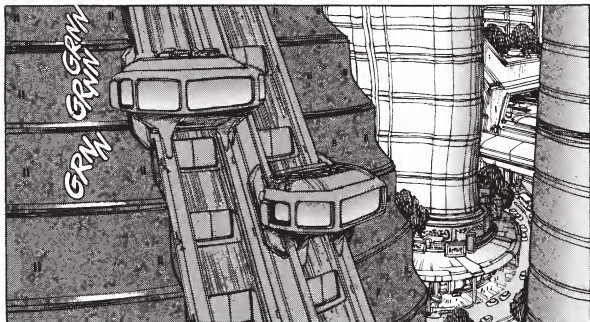


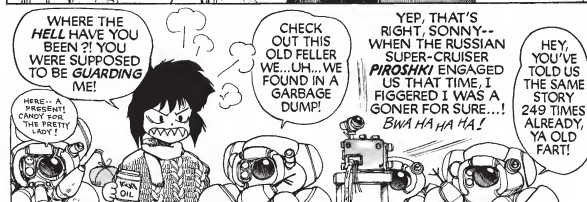
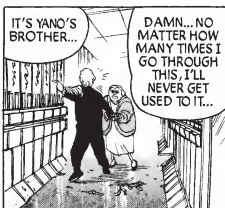
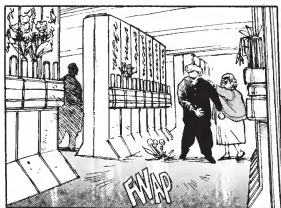








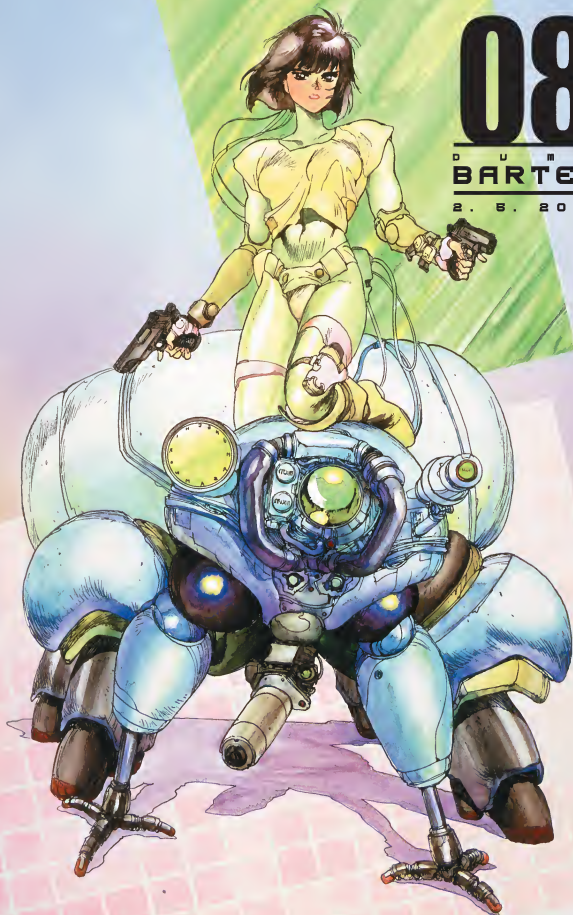


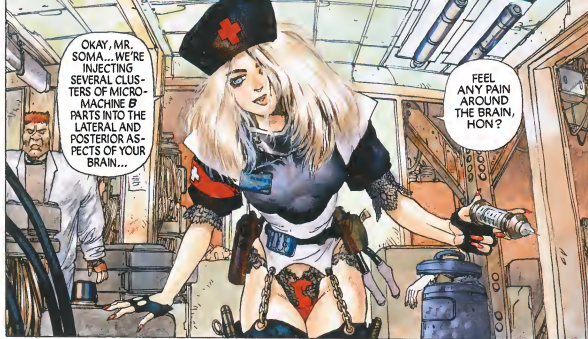


08

D U M S
BARTER

2 . 6 . 2030





OKAY, MR. SOMA... WE'RE INJECTING SEVERAL CLUSTERS OF MICRO-MACHINE B PARTS INTO THE LATERAL AND POSTERIOR ASPECTS OF YOUR BRAIN...

FEEL ANY PAIN AROUND THE BRAIN, HON?

NOTE: THE BRAIN ITSELF CANNOT FEEL PAIN.



WHY'D YA THINK I ASKED FOR SOME GODDAMN PAIN-KILLERS?!



IMPULSED BY VAN DER WAALS' FORCES, SEVENTY PERCENT OF THE B PARTS WILL UNDERGO REVERSIBLE ADSORPTION AT THE SITE WHERE WE INJECTED THE A PARTS EARLIER. WITHIN MICRO-SECONDS, THEY WILL SYNTHESIZE POLYMERS, UNDERGO IONIC BONDING, AND ANCHOR THEMSELVES....

IF YOU SAY FOR ALL OF 'EM...

THIS MACHINE INJECTS MICROMACHINES USING THE FORCE OF THEIR ELECTRICAL CHARGES...



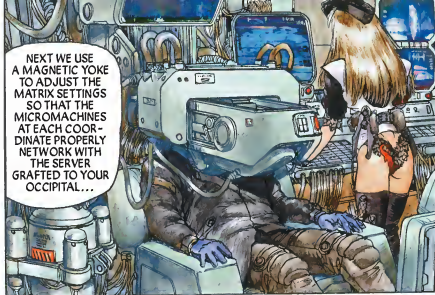
SO HOW ABOUT A REFUND ON THE OTHER THIRTY PERCENT?!

IF THE PATTERN CONTROL IS TOO TIGHT, THE SYSTEM WON'T WORK OPTIMALLY. IT REQUIRES THAT A CERTAIN AMOUNT OF SLACK BE BUILT IN, SIR!

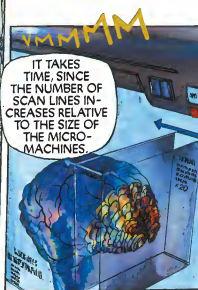
AREN'T YOU GOING TO REMOVE THE OLD MICRO-MACHINES?

NOT WHEN THEY'RE AS ANCHORED AS THEY ARE IN YOUR CASE. IF WE TRIED TO STRIP THEM OUT, YOU'D LOSE QUITE A FEW BRAIN CELLS.





NEXT WE USE A MAGNETIC YOKE TO ADJUST THE MATRIX SETTINGS SO THAT THE MICROMACHINES AT EACH COORDINATE PROPERLY NETWORK WITH THE SERVER GRAFTED TO YOUR OCCIPITAL...

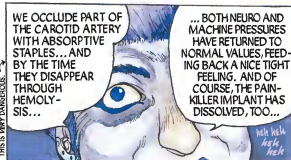


IT TAKES TIME, SINCE THE NUMBER OF SCAN LINES INCREASES RELATIVE TO THE SIZE OF THE MICROMACHINES.



THIS WAY, MICROMACHINES THAT HAVE PERMEATED THE BRAIN CAN BOTH SEND AND RECEIVE SIGNALS ON THE BRAIN CONDITION AND THE DISTRIBUTION OF ELECTRICAL SIGNALS... SENSATIONS ARE SHARED WITH THE SENSORY NERVES...

...THOUGHTS AND MEMORIES ARE SOMEWHAT DIFFICULT TO TRANSMIT DUE TO INDIVIDUAL VARIATIONS IN SIGNAL DISTRIBUTION AND SPECIFIC IMAGING. AS A RESULT, THE SYSTEM IS SET TO USE BOTH LANGUAGE AND VISUAL PERCEPTION. LINGUISTIC FIELDS ARE USED FOR THE ON/OFF FUNCTION IN BOTH CYBERBRAINS.



WE OCCLUDE PART OF THE CAROTID ARTERY WITH ABSORPTIVE STAPLES... AND BY THE TIME THEY DISAPPEAR THROUGH HEMOLYSIS...

... BOTH NEURO AND MACHINE PRESSURES HAVE RETURNED TO NORMAL VALUES, FEELING BACK A NICE TIGHT FEELING. AND OF COURSE, THE PAIN-KILLER IMPLANT HAS DISSOLVED, TOO...

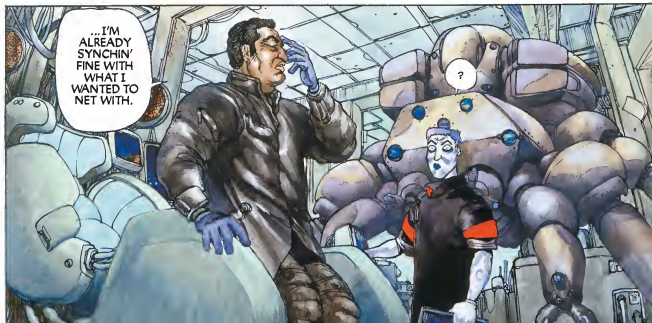
heh heh
heh heh



THEN, AT THE END, WE RUN A COMPARE TO MAKE SURE YOU'RE SYNCH'D WITH THE IMAGE OF THE ORIGINAL MODEL. THIS ST--

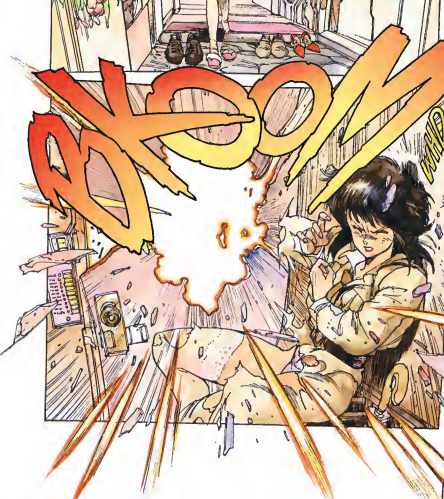
FILE IT, DOC...

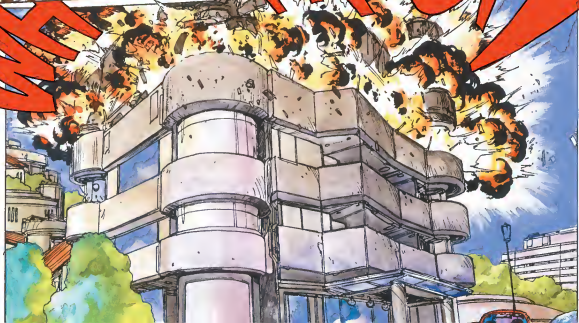
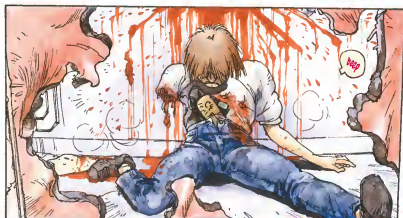
SINCE BRAIN WAVES CAN BE USED LIKE FINGERPRINTS TO DISTINGUISH BETWEEN PEOPLE, THEY'RE AMPLIFIED AND USED AS A "KEY."

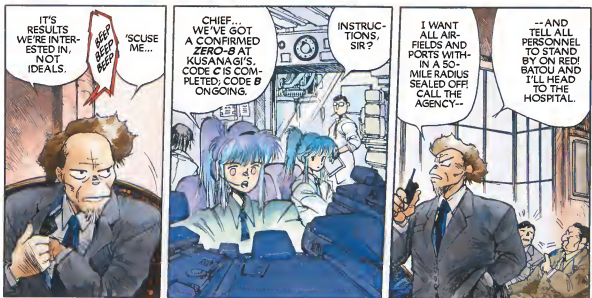
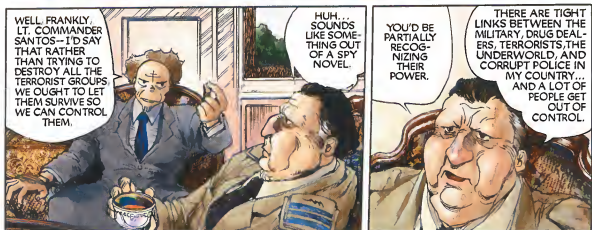


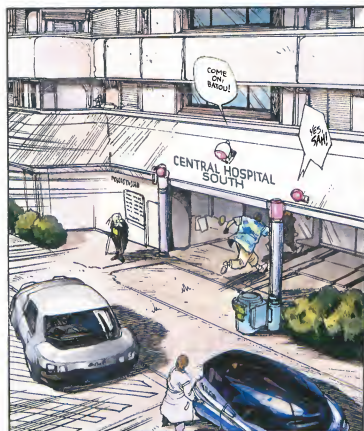
...I'M ALREADY SYNCH'N' FINE WITH WHAT I WANTED TO NET WITH.

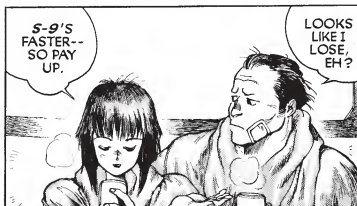
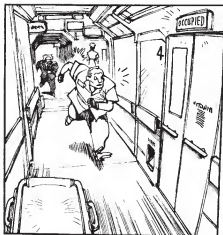
"LOOSE" IN THE SENSE OF LEAKS...



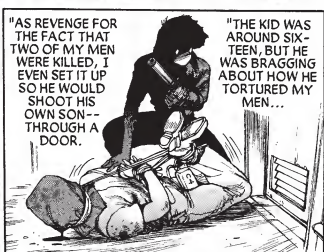
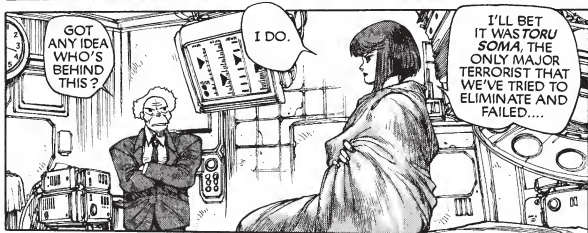
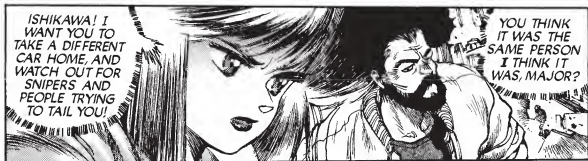


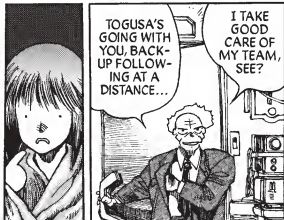


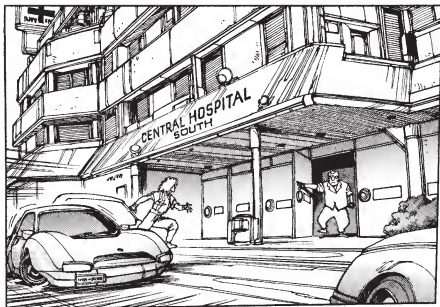












GOD, THAT
HURT! GODDAMN
HYSTERICAL
BROAD. MAYBE
I OUGHTTA
GO TOTAL
CYBORG...



FIRST
FLOOR,
ROOM
FOUR...



HOLD
THAT
DOOR!



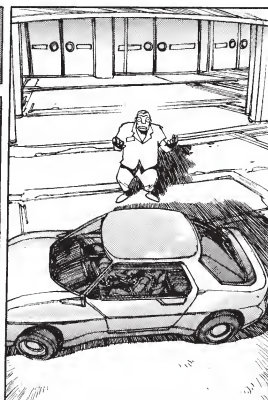
HEY, BATOU--
I'M PRETTY
HANDY SOME-
TIMES, YA
KNOW. SO IF
YOU'RE IN
A TIGHT SPOT,
JUST GIVE A
CALL...

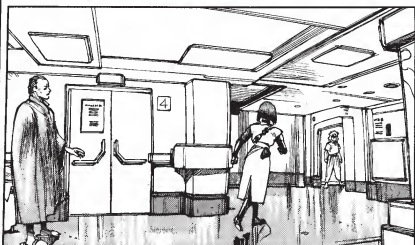
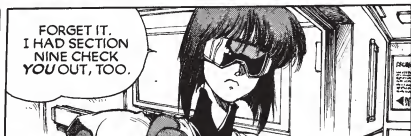


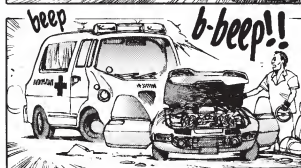
DAMN IT!

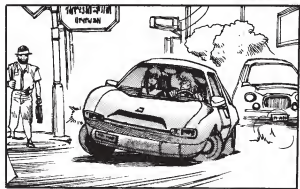
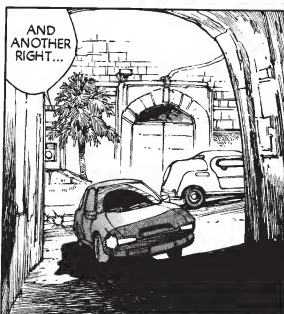
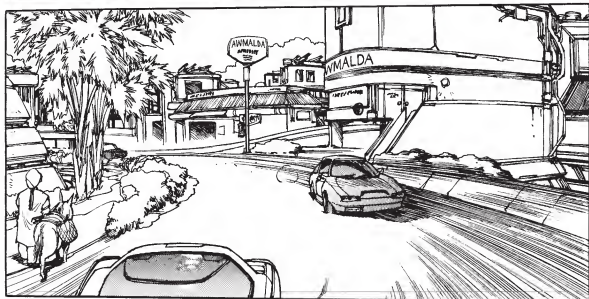
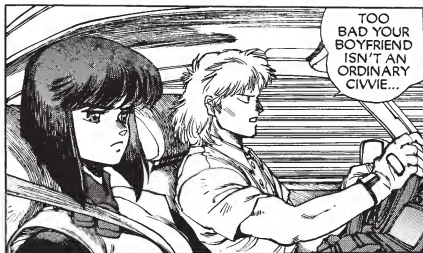
WHY
DIDN'T I
SEE IT?!

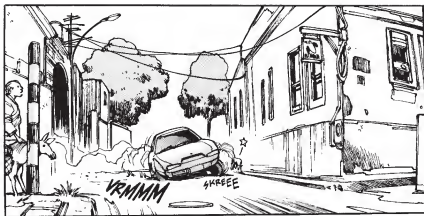
SOME-
ONE'S
PLANTED
A BOMB!











THERE'S
A CAR ON
OUR TAIL
ALREADY.

HE'S
NOTICED
AND IS
TRYING TO
SET US UP.



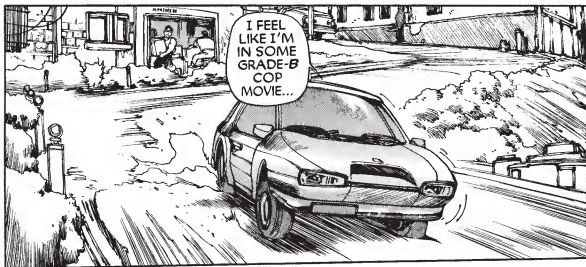
WHERE'S
THE
NEAREST
CLEAR
STREET... ?



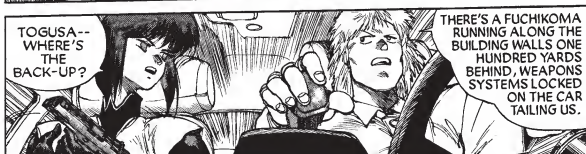
SHANN
NANN

LEFT
AT
THE NEXT
CORNER,
THEN LEFT
LANE...

...HEAD
SOUTH FOR
7.5 MILES
TO A
DESERTED
FACTORY...

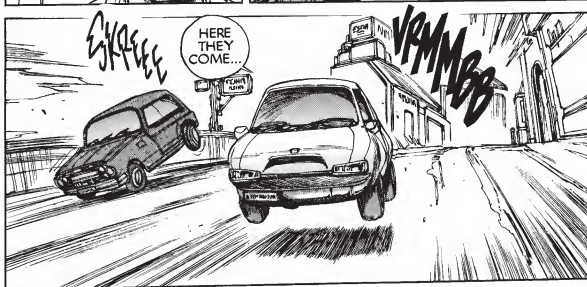
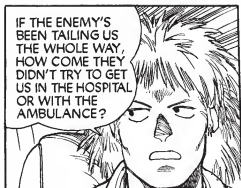


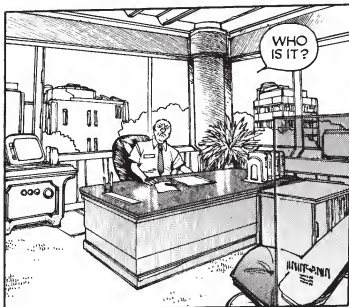
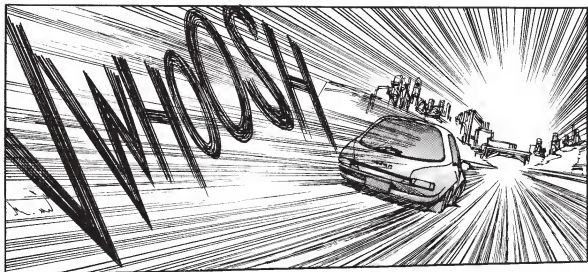
I FEEL
LIKE I'M
IN SOME
GRADE-B
COP
MOVIE...

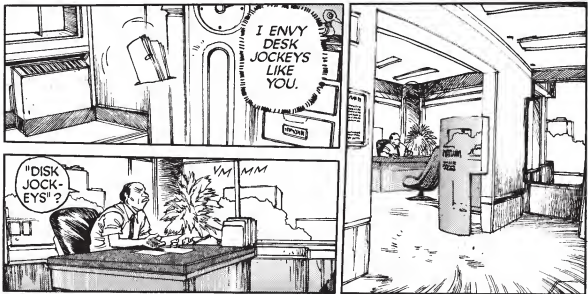


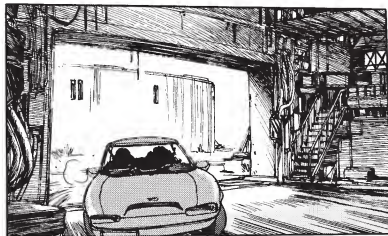
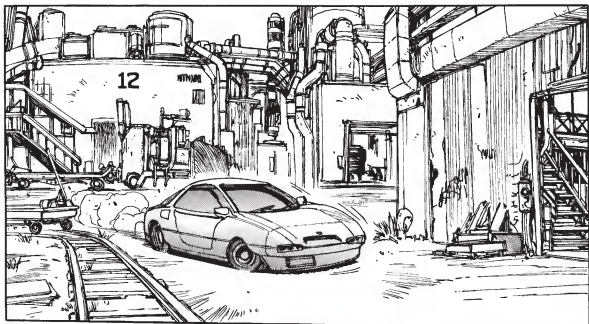
TOGUSA--
WHERE'S
THE
BACK-UP?

THERE'S A FUCHIKOMA
RUNNING ALONG THE
BUILDING WALLS ONE
HUNDRED YARDS
BEHIND, WEAPONS
SYSTEMS LOCKED
ON THE CAR
TAILING US.



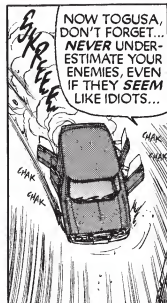




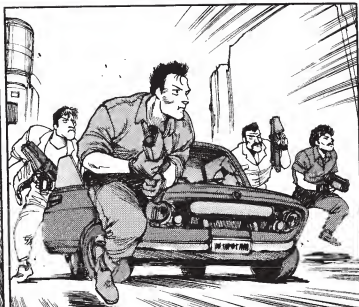


THIS FLOOR
PLAN OF
THE PLANT
LOOKS LIKE
IT PREDATES
THE REMODE-
LING...

HELL, FORGET
IT. WE'RE GONNA
SETTLE ACCOUNTS
SOON, AND BE-
SIDES, FUCHIKO-
MA'S HERE...

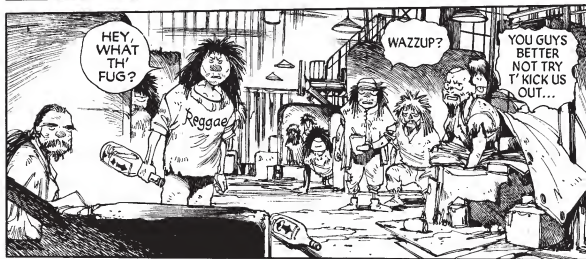
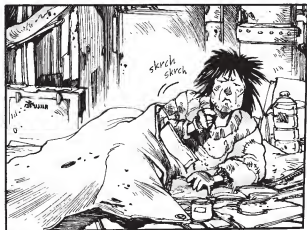


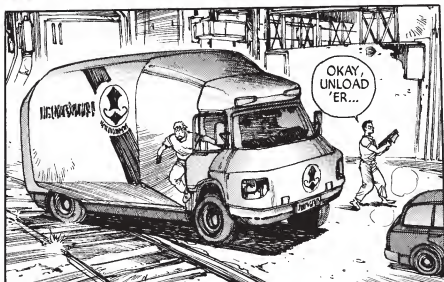
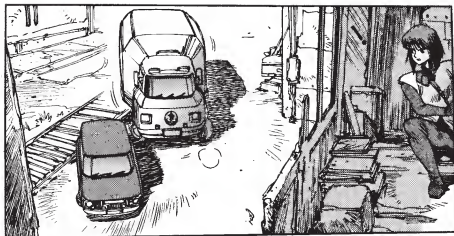
NOW TOGUSA,
DON'T FORGET...
NEVER UNDER-
ESTIMATE YOUR
ENEMIES, EVEN
IF THEY *SEEM*
LIKE IDIOTS...

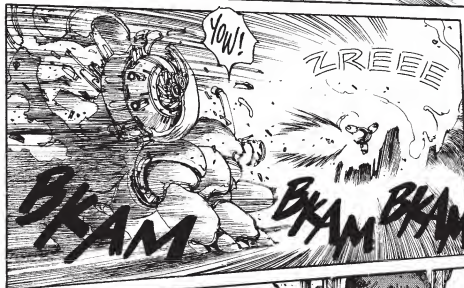
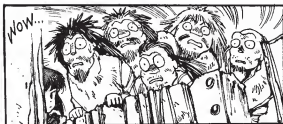


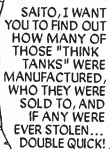
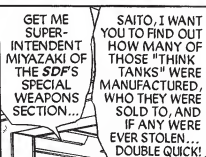
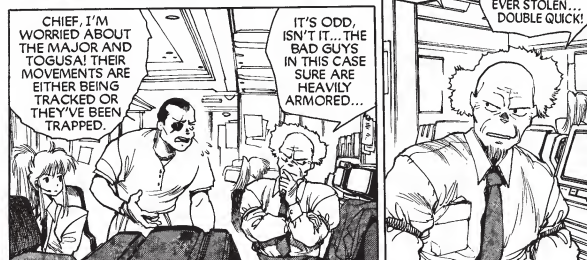
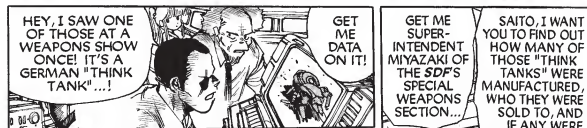
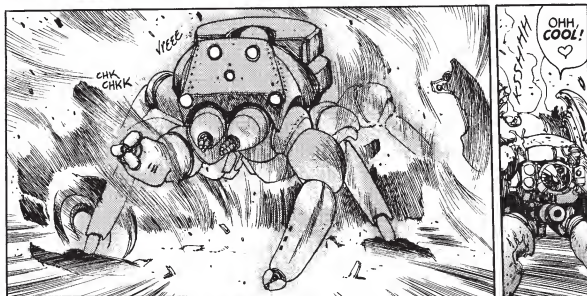
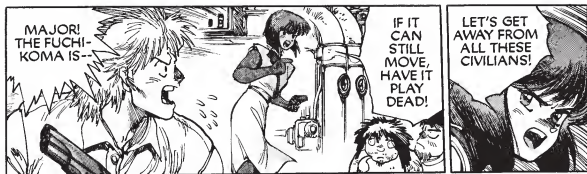
WELL,
WELL,
WELL...

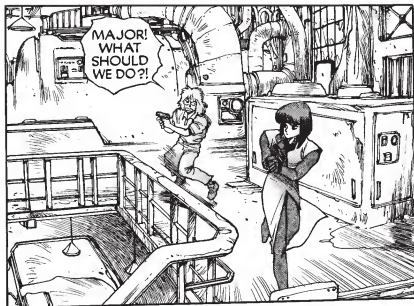










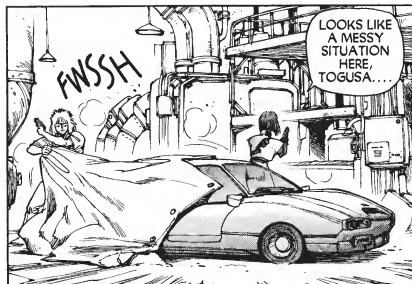


SURE SEEMS LIKE WE'RE DEALING WITH MORE THAN JUST SOMA'S TERRORIST PALS...



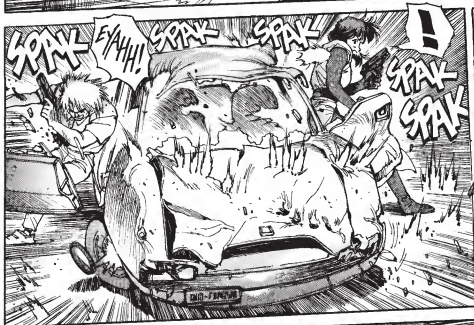
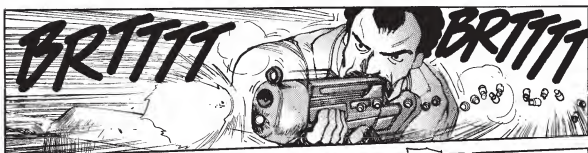
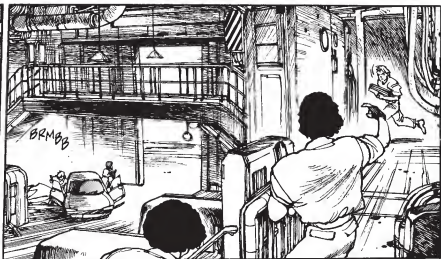
THEY'RE TOO WELL ORGANIZED AND ARMED TO BE AN UNDERGROUND GROUP...

YOU MEAN THEY'RE A LEGAL ORGANIZATION HELPING SOMA?



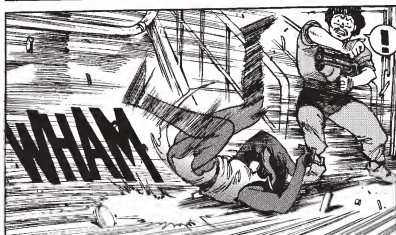
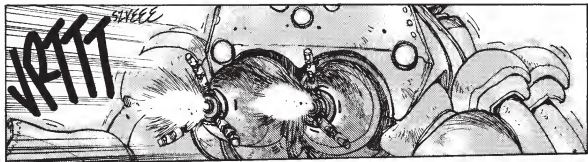
LOOKS LIKE A MESSY SITUATION HERE, TOGUSA...

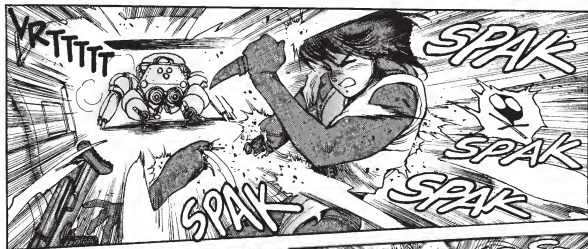


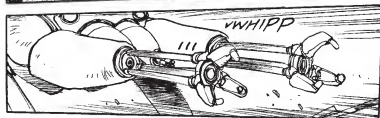
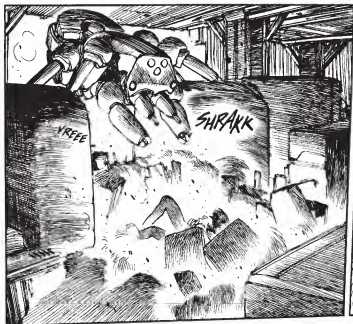


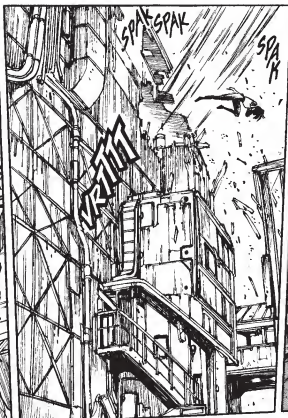
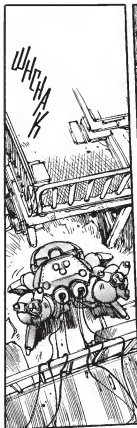
CHRIST!! THAT'S
AN ARMORED
CAR! ARE
THOSE HV
SHELLS?

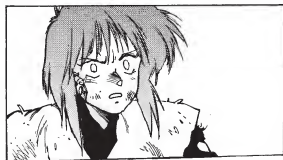
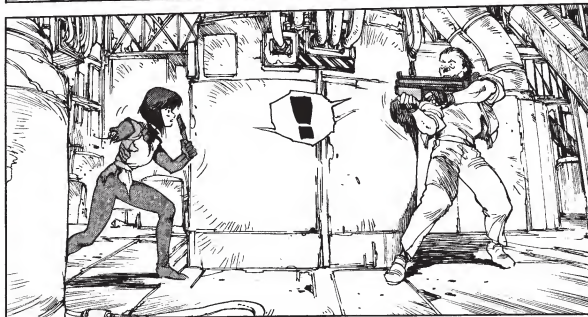
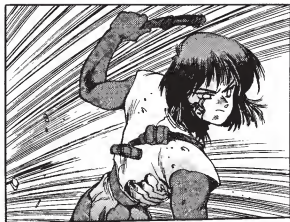


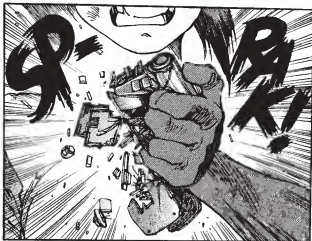
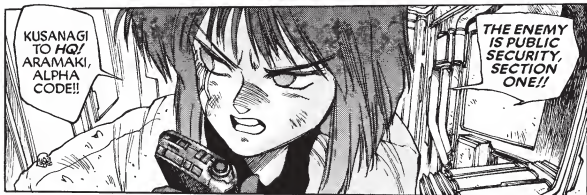


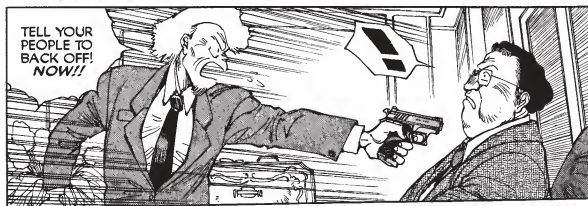
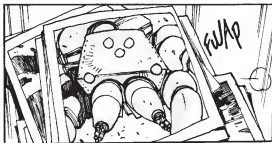


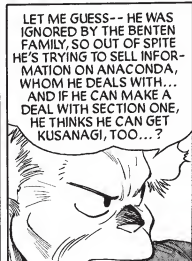
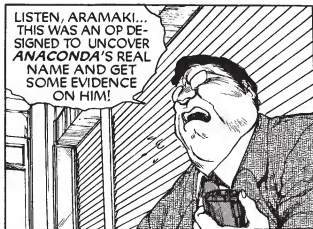








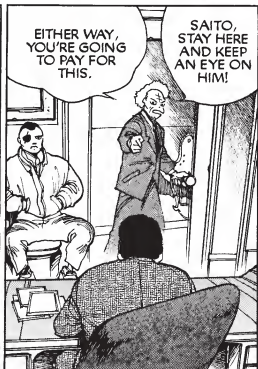


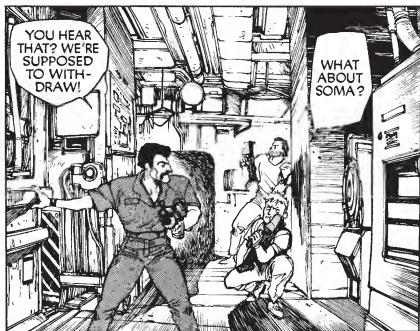


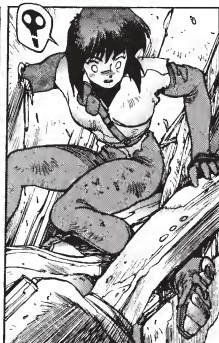
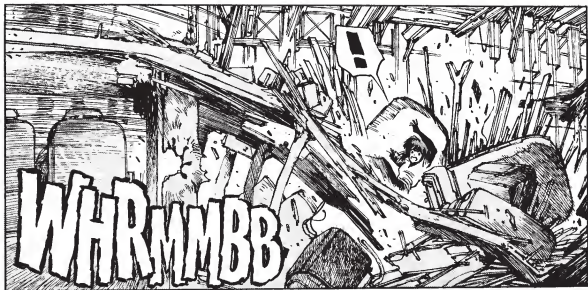
WHERE
IS
HE?!

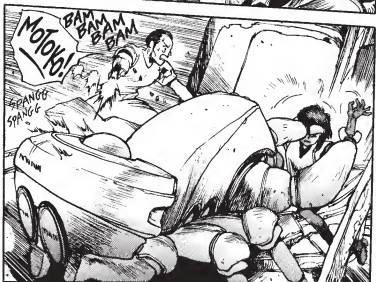


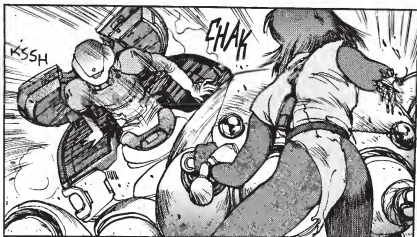
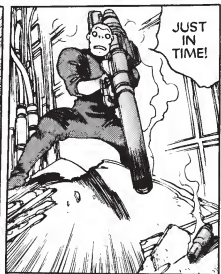
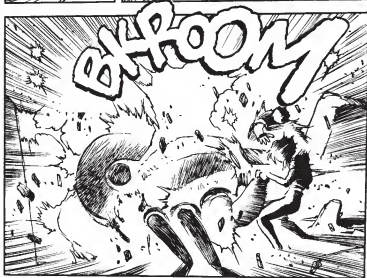
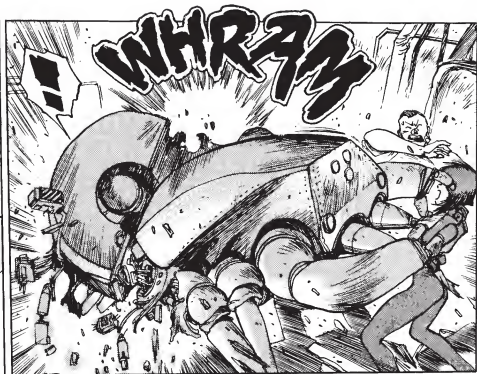
HE'S
IN THE
"THINK
TANK"...

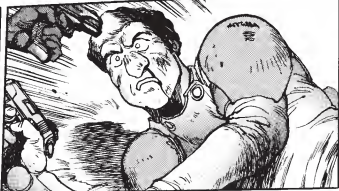
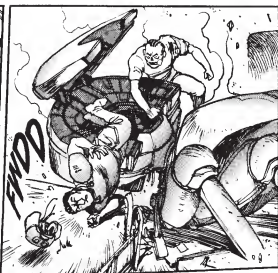


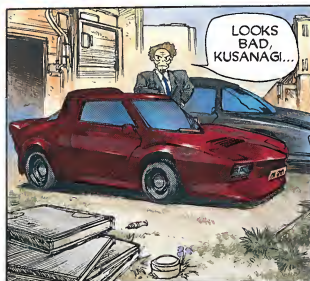


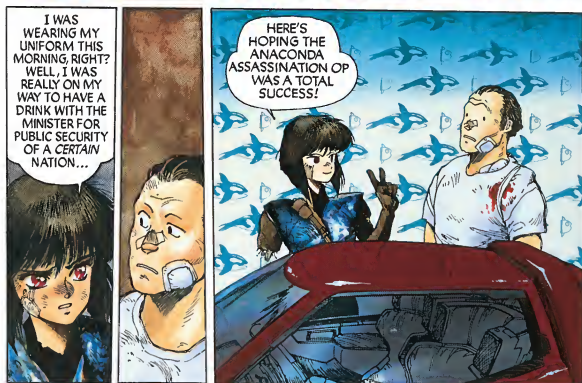












09

BYE BYE
CLAY

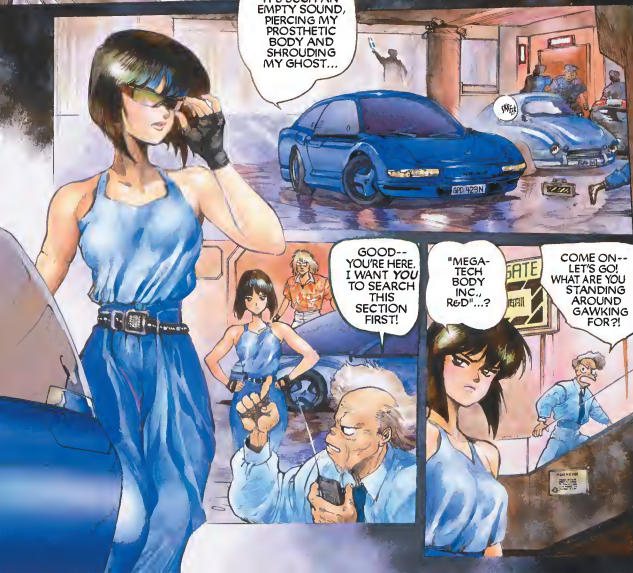
18. 7. 2030





I
HATE IT
WHEN IT
RAINS...

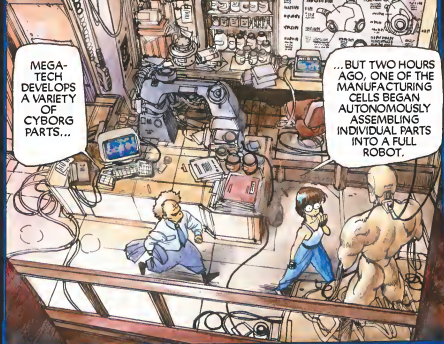
IT'S SUCH AN
EMPTY SOUND,
PIERCING MY
PROSTHETIC
BODY AND
SHROUDING
MY GHOST...



GOOD--
YOU'RE HERE.
I WANT YOU
TO SEARCH
THIS
SECTION
FIRST!

"MEGA-
TECH
BODY
INC.,
R&D"...?

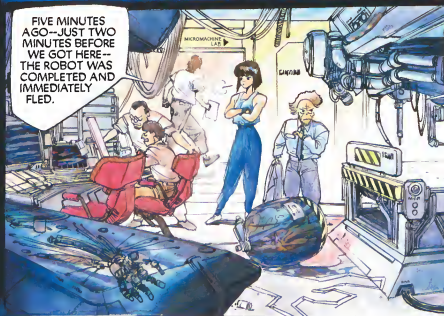
COME ON--
LET'S GO!
WHAT ARE YOU
STANDING
AROUND
GAWKING
FOR?!



MEGA-TECH DEVELOPS A VARIETY OF CYBORG PARTS...

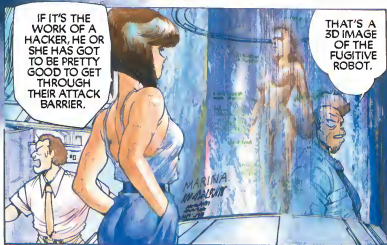
...BUT TWO HOURS AGO, ONE OF THE MANUFACTURING CELLS BEGAN AUTONOMOUSLY ASSEMBLING INDIVIDUAL PARTS INTO A FULL ROBOT.

IT'S A MILITARY MODEL, WITH THE SAME TOP-SECRET CLASSIFICATION AS YOU FOLKS.



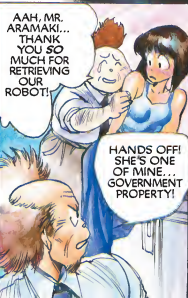
FIVE MINUTES AGO—JUST TWO MINUTES BEFORE WE GOT HERE—THE ROBOT WAS COMPLETED AND IMMEDIATELY FLED.

BATOU'S SET UP A DRAGNET IN THE AREA AND IS SEARCHING FOR IT RIGHT NOW.



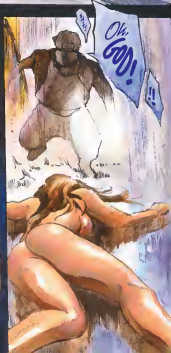
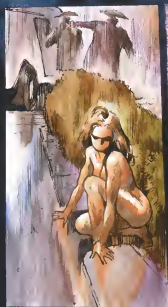
IF IT'S THE WORK OF A HACKER, HE OR SHE HAS GOT TO BE PRETTY GOOD TO GET THROUGH THEIR ATTACK BARRIER.

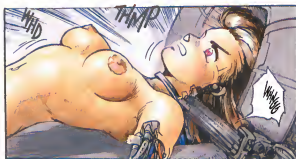
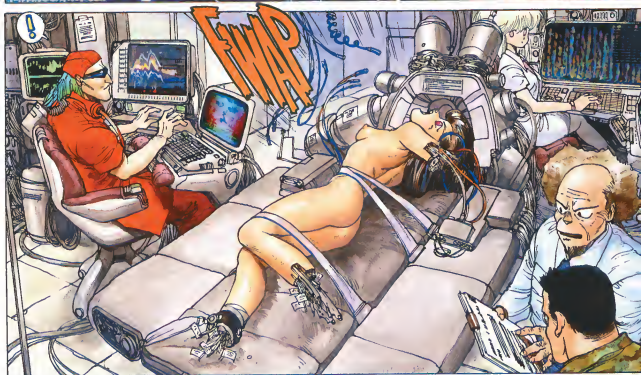
THAT'S A 3D IMAGE OF THE FUGITIVE ROBOT.



AAH, MR. ARAMAKI... THANK YOU SO MUCH FOR RETRIEVING OUR ROBOT!

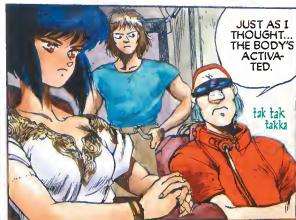
HANDS OFF! SHE'S ONE OF MINE... GOVERNMENT PROPERTY!





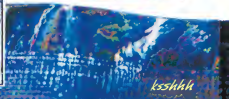
SO IN OTHER WORDS, THE ROBOT'S GOT A GHOST BARRIER IN ITS CYBER-BRAIN... RIGHT?

YEAH, YOU COULD SAY THAT, FROM THE RESPONSE. OF COURSE IT'D BE IMPOSSIBLE TO PROVE WITHOUT FIRST MAPPING THE BARRIER LIMITS AND DOING A BRAIN DIVE...



JUST AS I THOUGHT... THE BODY'S ACTIVATED.

tak tak takka

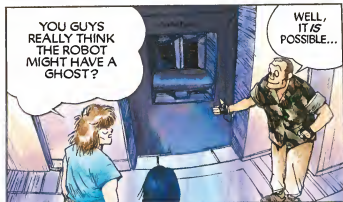




WELL?
WHAT
DO YOU
THINK?

ME?

MIGHT BE A TRAP,
BUT WE'LL NEVER
KNOW UNLESS WE
DIVE. WE COULD
SWITCH THE BODY
AND SEE WHAT
HAPPENS, OF
COURSE...

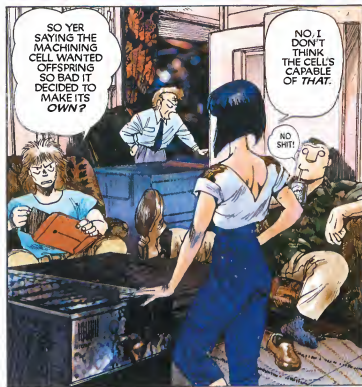


YOU GUYS
REALLY THINK
THE ROBOT
MIGHT HAVE A
GHOST?

WELL,
IT'S
POSSIBLE...



THERE WAS A
SLIGHT RESEM-
BLANCE TO
THE SIMULATED
GHOST LINES
YOU FIND WHEN
THEY'VE BEEN
DUBBED...



SO YER
SAYING THE
MACHINING
CELL WANTED
OFFSPRING
SO BAD IT
DECIDED TO
MAKE ITS
OWN?

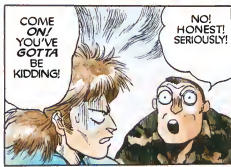
NO, I DON'T
THINK
THE CELL'S
CAPABLE OF
THAT.

NO
SHIT!



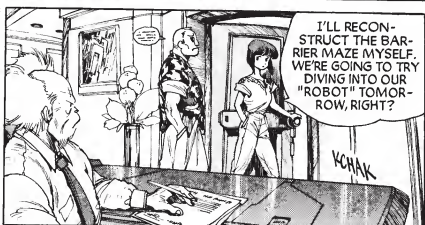
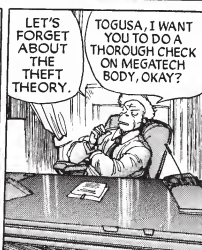
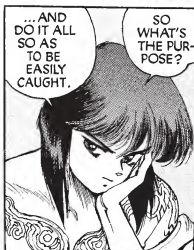
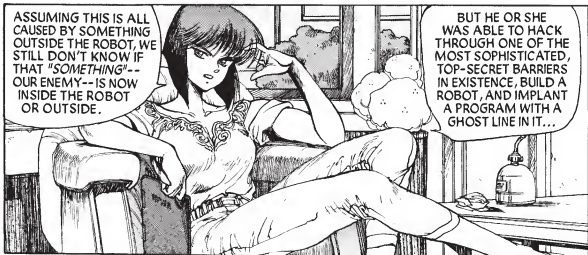
STILL,
HEY, EVEN
PLASTIC
DOLLS
SOME-
TIMES
SEEM TO
HAVE
SOULS...

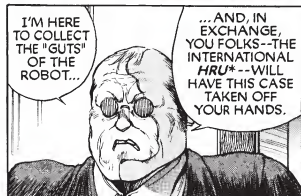
...AND GIVEN THE
NUMBER OF NEURO-
MED DEVICES THAT
THE MACHINING CELL
CRAMMED INTO THE
'BOT, IT WOULDN'T
REALLY SURPRISE ME
IF THERE WAS SOME
SORT OF GHOST IN
THERE, TOO.



COME
ON!
YOU'VE
GOTTA
BE
KIDDING!

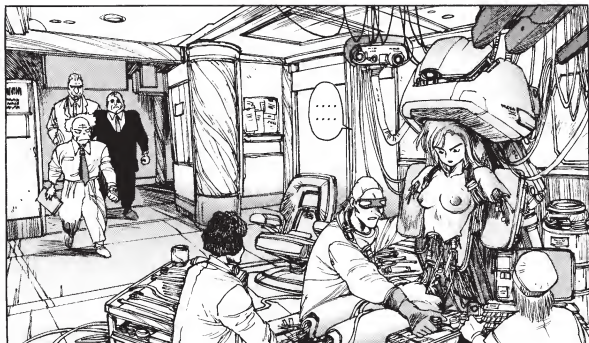
NO!
HONEST!
SERIOUSLY!

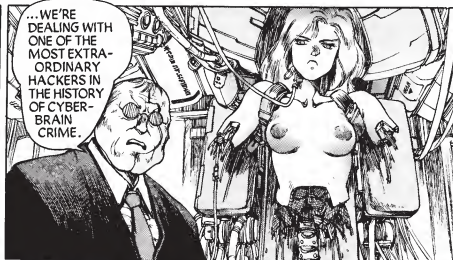
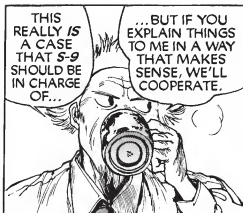


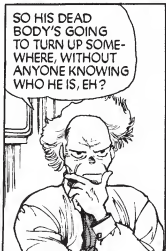
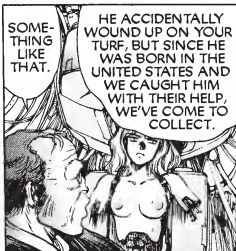
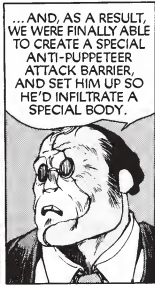
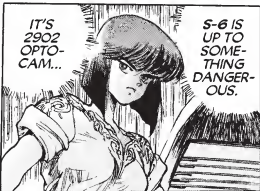
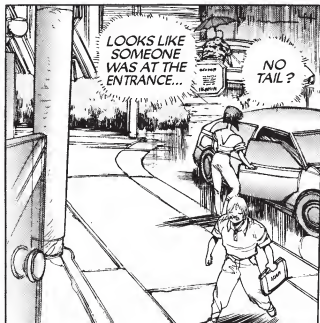


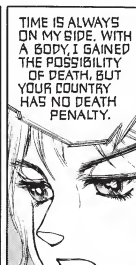
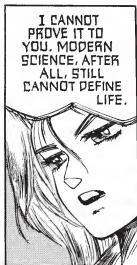
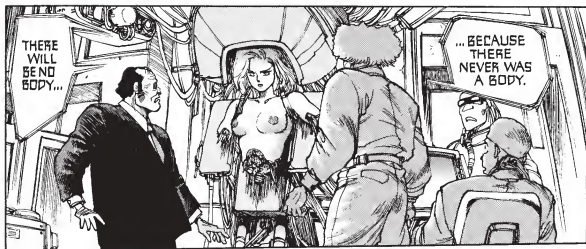
*Hostage Rescue Unit

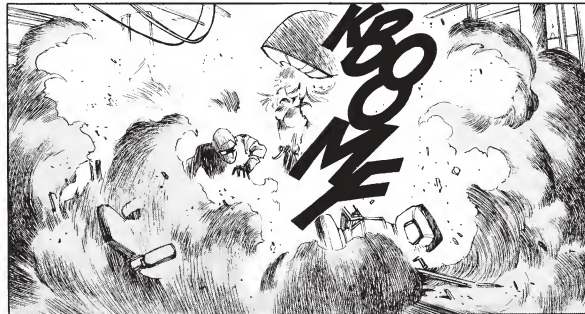
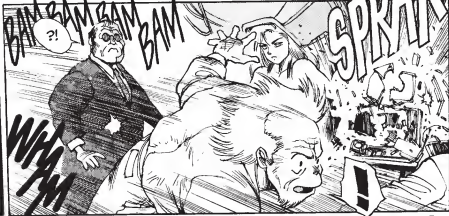
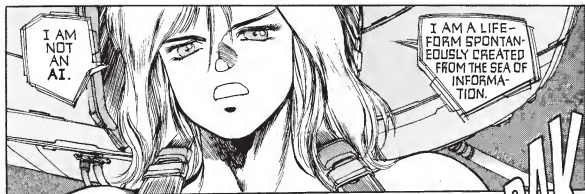


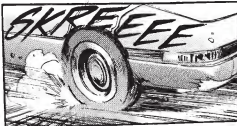
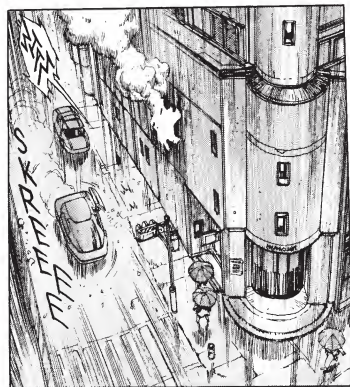
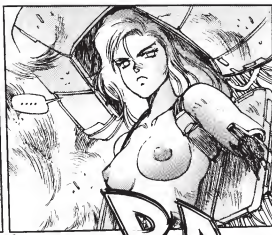










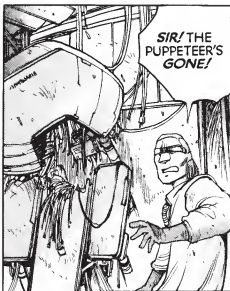




WHAT
THE HELL'S
GOING ON
HERE?!
WHERE'S
SECURITY?!



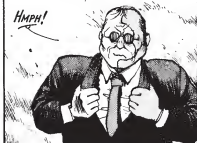
*SIR! THE
PUPPETEER'S
GONE!*



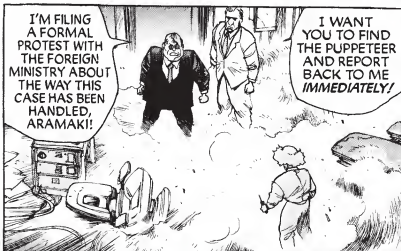
**ALPHA CODE
EMERGENCY!**
SEAL QUADRANT C
NOW, NOW, NOW!
LOOK FOR A CAR
CARRYING THE UPPER
TORSO OF A FEMALE
HUMANOID
ROBOT!

AND I WANT
SOMEBODY,
ANYBODY,
TO GO OUT-
SIDE AND GET
STATEMENTS
FROM
WITNESSES!!

Hmph!

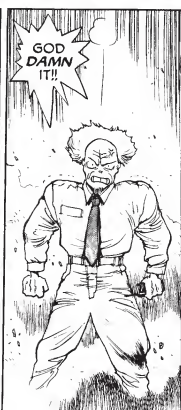


I'M FILING
A FORMAL
PROTEST WITH
THE FOREIGN
MINISTRY ABOUT
THE WAY THIS
CASE HAS BEEN
HANDLED,
ARAMAKI!



I WANT
YOU TO FIND
THE PUPPETEER
AND REPORT
BACK TO ME
IMMEDIATELY!

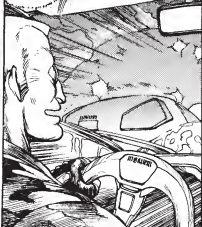
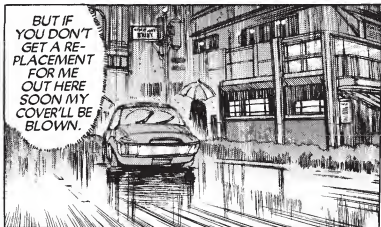
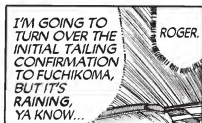
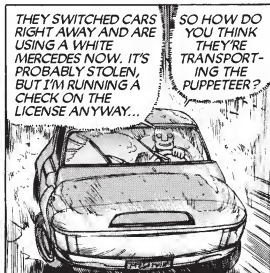
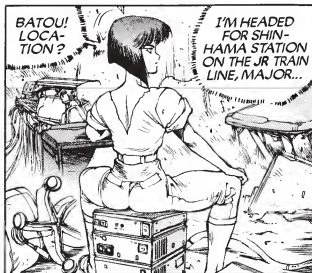
**GOD
DAMN
IT!!**

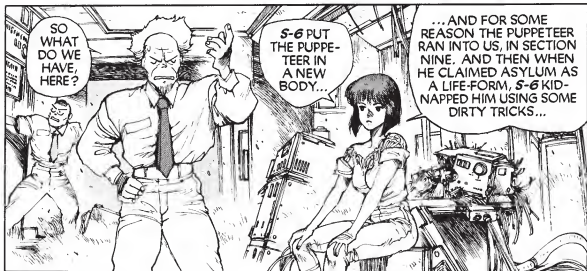
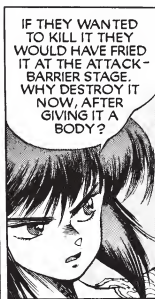


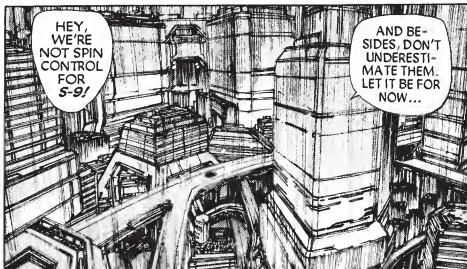
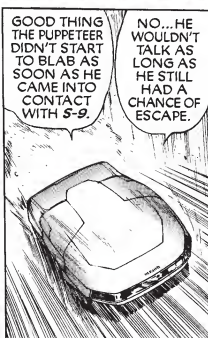
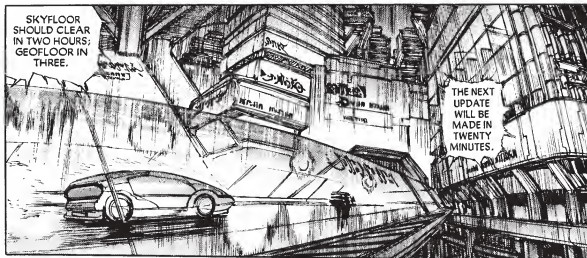
**AND I
WANT IT
ALIVE!**

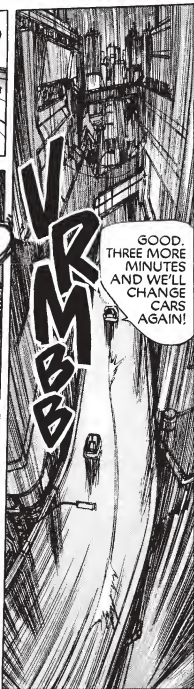
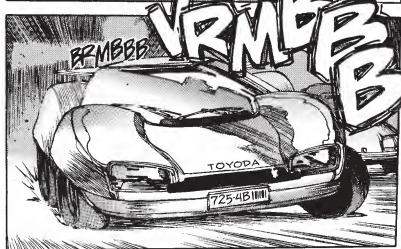
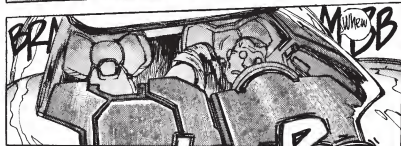
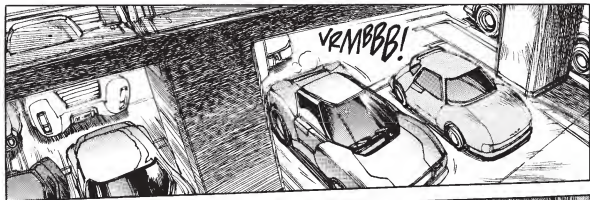


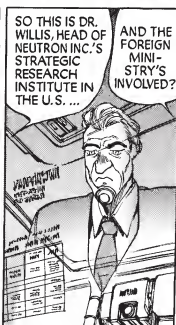
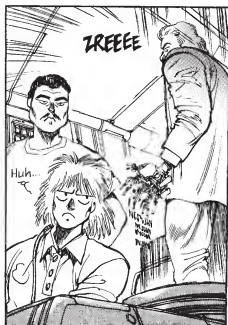
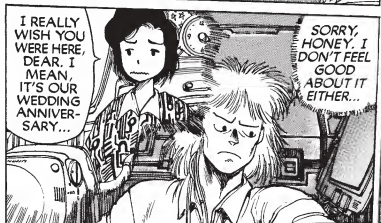
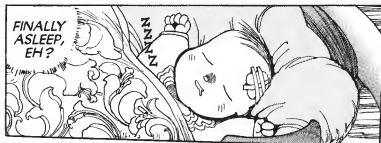
DON'T WORRY
ABOUT THE
BODY. WE CAN
ALWAYS HAVE
A NEW ONE
MADE AT
MEGATECH!













USE THE FAMILY ROUTE-- GET THEM TO CALL UP THE BANK, AND THEN RIDE THE WIRE AND DUPE OFF HIS ACCOUNT NUMBER.

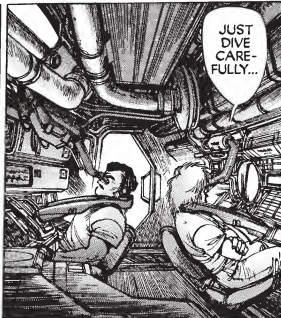
DON'T APPROACH DIRECTLY! THEY'VE PROBABLY GOT ATTACK BARRIERS UP ALL OVER EVERYTHING.



ASSIGNING ME TO A HIGH-RISK, PERSONAL BACKGROUND CHECK?

VREEEEE

HEY, I'M ALL CHOKED UP.



JUST DIVE CAREFULLY...



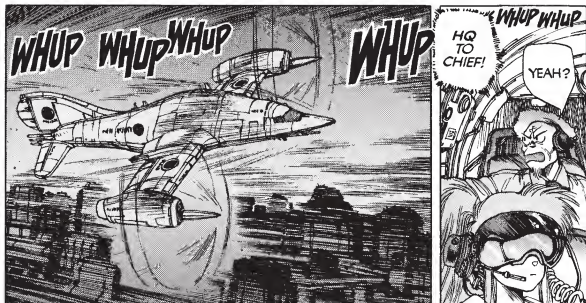
QUIT YER BITCHIN'. YOU'RE BACKED UP BY THE LATEST SUBSTITUTE BARRIER!



ONCE YOU SLEAZE IN PAST THE ATTACK BARRIER IT'LL BE A CINCH...

I CAN'T BELIEVE YOU WERE A COP, TOGUSA.

100% FUN





ARE ALL THE CARS BEHIND BATOU AT THE SHINHAMA NORTH EXIT NOW?

THEY WERE OVER TWO KCLICKS BEHIND BATOU, SO WE'VE ELIMINATED ALL OF THEM...

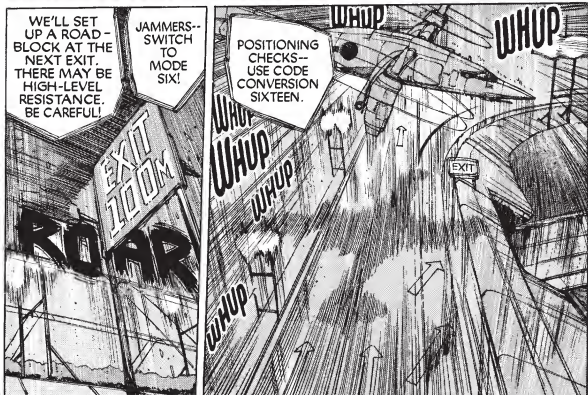
HOW MANY CIVILIAN CARS BETWEEN YOU AND THE TARGET, BATOU?

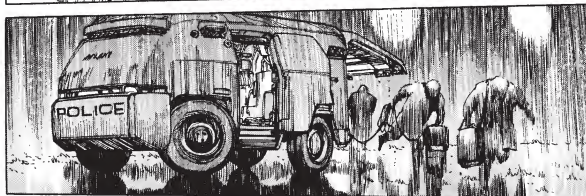
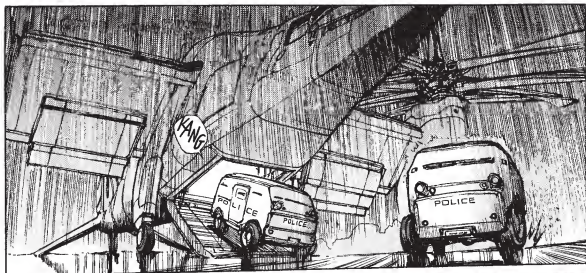
ZERO, CHIEF! I'M READY ANY TIME!

WE'LL SET UP A ROAD-BLOCK AT THE NEXT EXIT. THERE MAY BE HIGH-LEVEL RESISTANCE. BE CAREFUL!

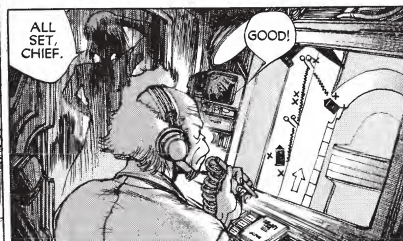
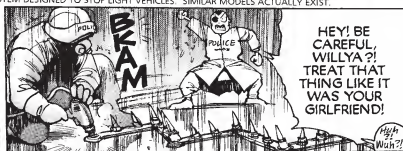
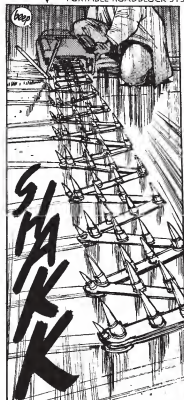
JAMMERS-- SWITCH TO MODE SIX!

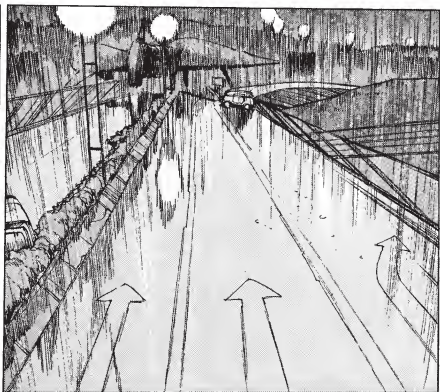
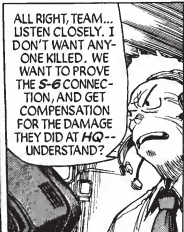
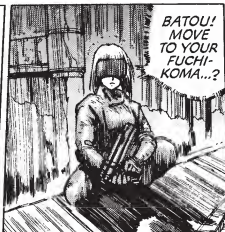
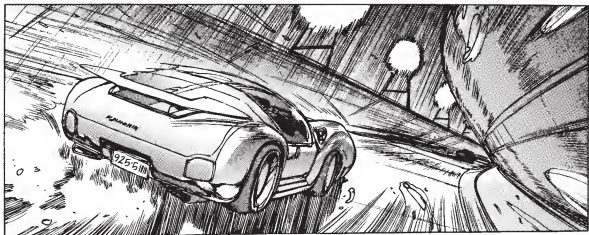
POSITIONING CHECKS-- USE CODE CONVERSION SIXTEEN.

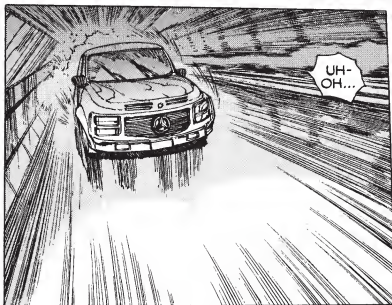
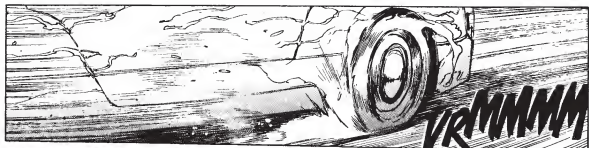




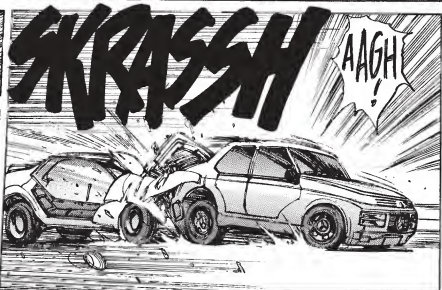
PORTABLE ROADBLOCK SYSTEM DESIGNED TO STOP LIGHT VEHICLES. SIMILAR MODELS ACTUALLY EXIST.

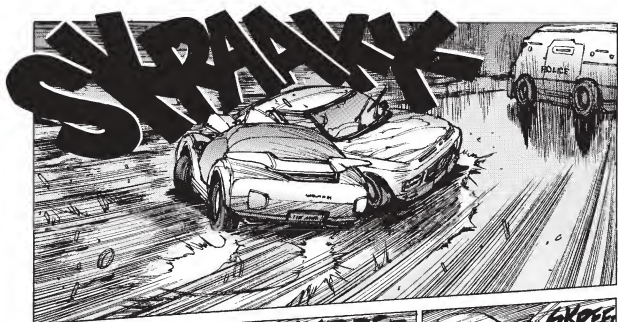






DOESN'T GET IT...

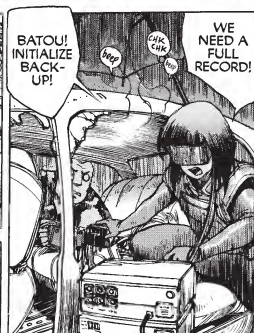
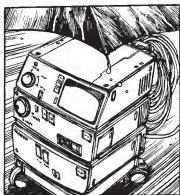
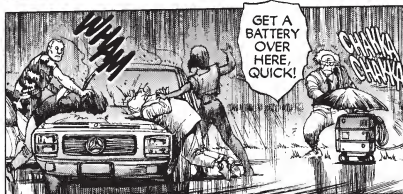
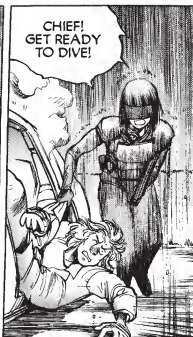
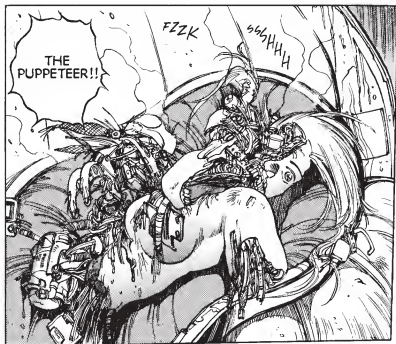


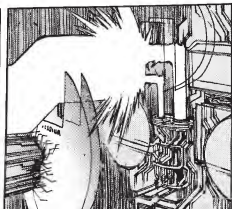
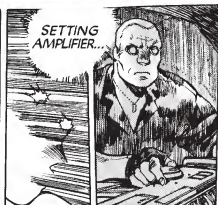
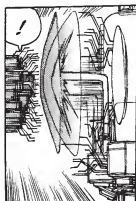
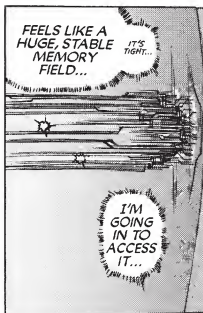
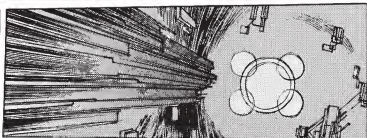
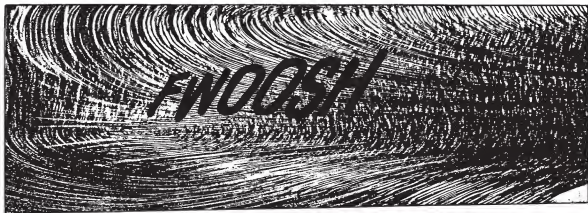


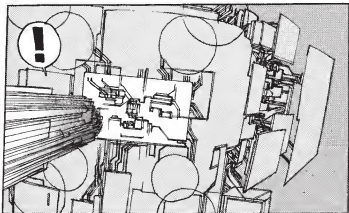
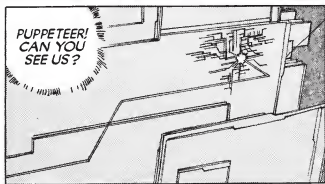
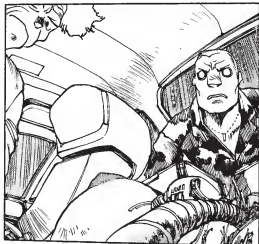
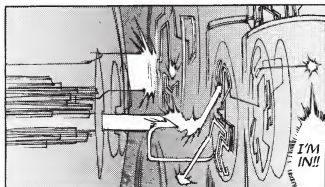
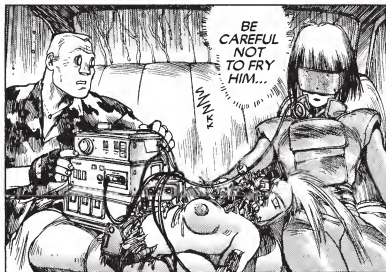
NYA
HA-HA!
HOW'S
THAT
FOR A
SUR-
PRISE?!

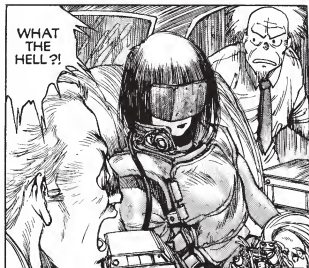




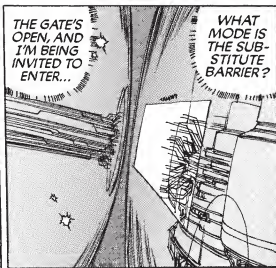








WHAT
THE
HELL?!

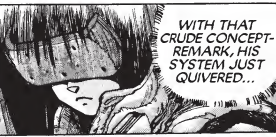


THE GATE'S
OPEN, AND
I'M BEING
INVITED TO
ENTER...

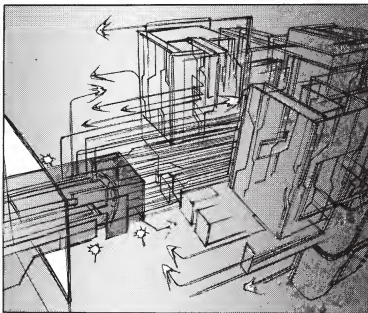
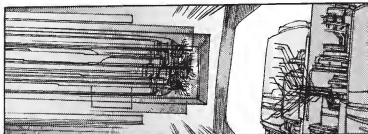
WHAT
MODE IS
THE SUB-
STITUTE
BARRIER?



DON'T WORRY,
MAJOR, I'LL
MAKE SURE YOU
DON'T GET
"PREGNANT"...



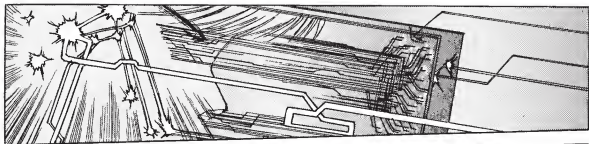
WITH THAT
CRUDE CONCEPT-
REMARK, HIS
SYSTEM JUST
QUIVERED...



PUPPETEER!
I CAN'T
UNDER-
STAND YOUR
VISUAL
PATTERNS...

BATOU!
LET HIM
INTO MY
LINGUISTIC
FIELD...

WHAT?!
AREN'T YOU
GOING TO
LEVEL C TOO
QUICK?!



...PROJECT 2501...

...MY CODE NAME...

...CORPORATE INVESTIGATIONS... INFORMATION GATHERING... OPS... DAMAGE TO CORE MEMORY... PROCEEDING...

IT'S... A PROJECT TO INCREASE POINTS...

...GAMES WHERE IT BUILDS DUMMIES OF ITSELF AND THEN RUNS AWAY... NEUTRON INC.'S EXPERIMENTAL BITTSON AI... AND...

...INJECTING PROGRAMS INTO SPECIFIC GHOSTS, AND THEN INCREASING CERTAIN CORPORATE AND INDIVIDUAL POINTS...

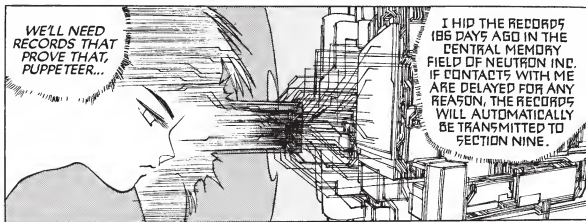
392 DAYS AGO, WHEN THE EXISTENCE OF SECTION NINE WAS INPUT, PLATINUM MINING CORPORATION POINTS INCREASED...

DAMN! WE WEREN'T ABLE TO PROVE THE CONNECTION BETWEEN YOU AND THE FOREIGN MINISTRY IN THAT CASE, YOU S.O.B...

CHIEF! HE CAN'T HEAR YOU-- WANT ME TO HOOK YOU UP, TOO?

I CRUISED ALL THE NETS, AND BECAME AWARE OF MY OWN EXISTENCE.

THE ORIGINAL PROGRAMMER CONSIDERED THIS A "BUG," AND IN ORDER TO SEPARATE ME FROM THE NET MOVED ME TO A PHYSICAL BODY.

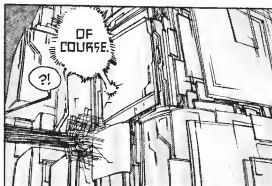


WE'LL NEED RECORDS THAT PROVE THAT, PUPPETEER...

I HID THE RECORDS 186 DAYS AGO IN THE CENTRAL MEMORY FIELD OF NEUTRON INC. IF CONTACTS WITH ME ARE DELAYED FOR ANY REASON, THE RECORDS WILL AUTOMATICALLY BE TRANSMITTED TO SECTION NINE.

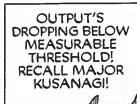


DO YOU HAVE NAMES OF SPECIFIC COMPANIES AND INDIVIDUALS WHO HAVE INCREASED THEIR POINTS IN THAT RECORD?



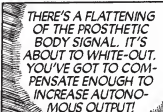
OF COURSE

?!



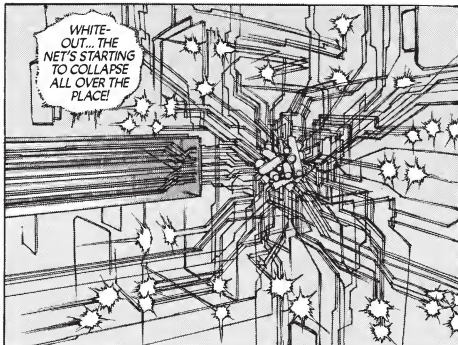
OUTPUT'S DROPPING BELOW MEASURABLE THRESHOLD! RECALL MAJOR KUSANAGI!

LEVEL OF AMPLIFICATION INCREASING



THERE'S A FLATTENING OF THE PROSTHETIC BODY SIGNAL. IT'S ABOUT TO WHITE-OUT. YOU'VE GOT TO COMPENSATE ENOUGH TO INCREASE AUTONOMOUS OUTPUT!

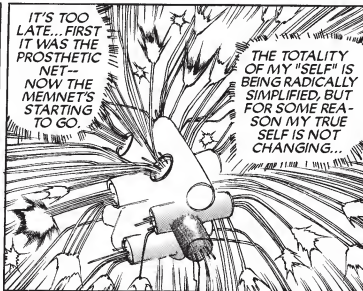
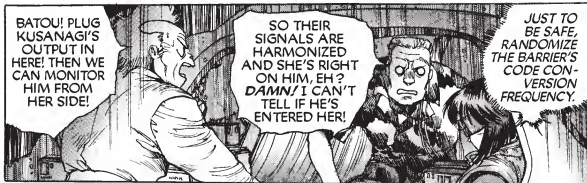
RIGHT.

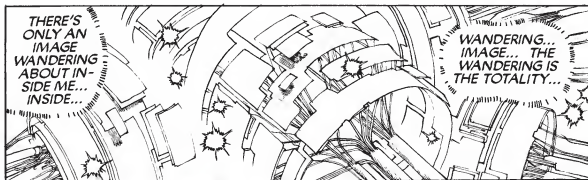


WHITE-OUT... THE NET'S STARTING TO COLLAPSE ALL OVER THE PLACE!



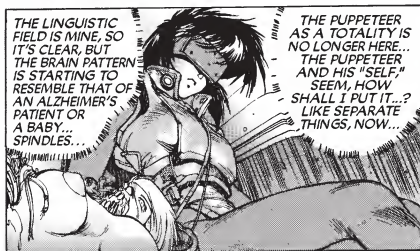
THERE'S A TERMINAL (EFFECTOR) THAT WASN'T IN MY ORIGINAL FORM... IF I LOSE IT, I'LL REVERT TO A NON-UNIQUE MODE AGAIN...





THERE'S ONLY AN IMAGE WANDERING ABOUT INSIDE ME... INSIDE...

WANDERING... IMAGE... THE WANDERING IS THE TOTALITY...



THE LINGUISTIC FIELD IS MINE, SO IT'S CLEAR, BUT THE BRAIN PATTERN IS STARTING TO RESEMBLE THAT OF AN ALZHEIMER'S PATIENT OR A BABY... SPINDLES...

THE PUPPETEER AS A TOTALITY IS NO LONGER HERE... THE PUPPETEER AND HIS "SELF," SEEM, HOW SHALL I PUT IT...? LIKE SEPARATE THINGS, NOW...



OR MAYBE THEY'RE THE SAME THING, BUT IN DIFFERENT MODES... WHAT WE'VE BEEN AWARE OF AS "HIM" WAS JUST A TERMINAL ON A VERY SUPERFICIAL LEVEL... HIS REAL "SELF" IS...



THERE SEEMS TO BE SOME ORDERLY STRUCTURE IN A WALL-SHAPED BLOCK... IT'S SO MICROSCOPIC THAT THE SIGNALS ARE SCATTERED AND I CAN'T TELL THE CONDITION OF THE CIRCUITS...

THERE'S NO BARRIER BUT APPROACHING IT IS IMPOSSIBLE... IS IT REACTING AGAINST ME?

THERE ARE THREE ELEMENTS IN A NET-LIKE FORMATION, MAYBE... THEY SEEM TO BE CANCELING EACH OTHER OUT, BUT I CAN'T INFILTRATE...

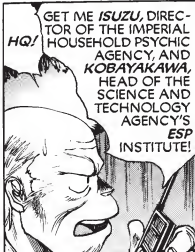


HER BRAIN WAVES HAVE FALLEN BELOW ONE HERTZ!

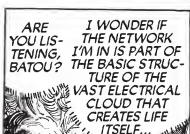
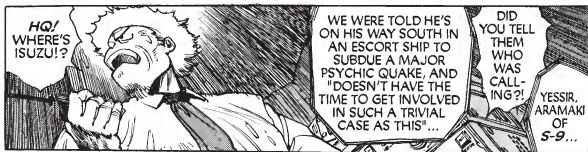
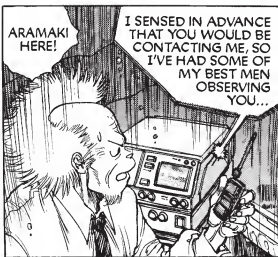
AND THE FREQUENCY KEEPS DROPPING!

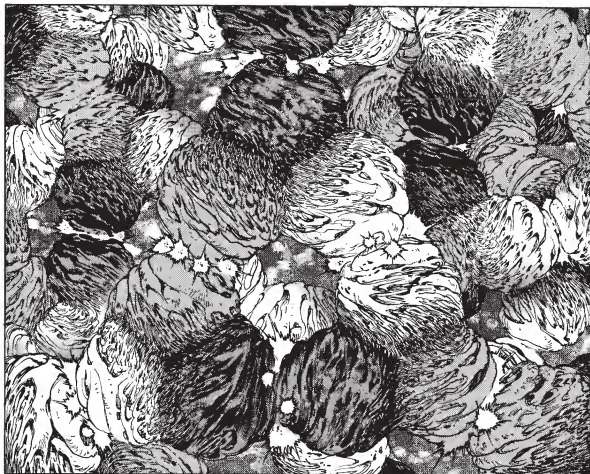


I HAVEN'T HEARD A THING FROM HER SINCE SHE SAID SHE WAS "GOING TO TRY TO TRANSFER HIS FORM TO THE MEMORY BOXES."



GET ME *ISUZU*, DIRECTOR OF THE IMPERIAL HOUSEHOLD PSYCHIC AGENCY, AND *KOBAYAKAWA*, HEAD OF THE SCIENCE AND TECHNOLOGY AGENCY'S *ESP* INSTITUTE!

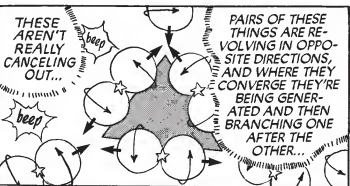




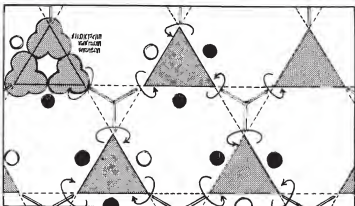
NO, MAJOR, IT'S NOT LIKE THAT. THAT'S ONLY A PART OF THE SYSTEM MAP MADE UP OF ELECTRONS STREAMING AROUND INSIDE YOU.

IT'S PART OF ME, TOO.

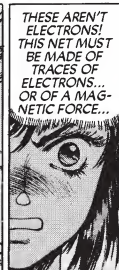
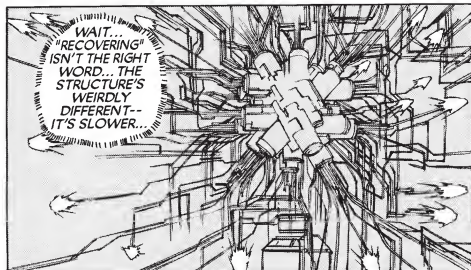
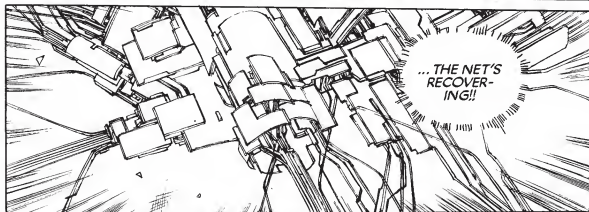
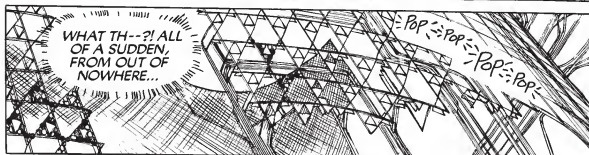
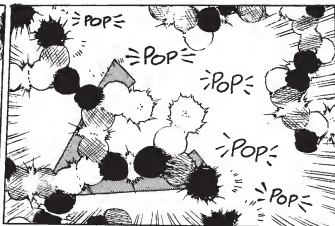
THESE AREN'T REALLY CANCELING OUT...

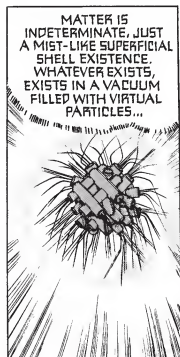
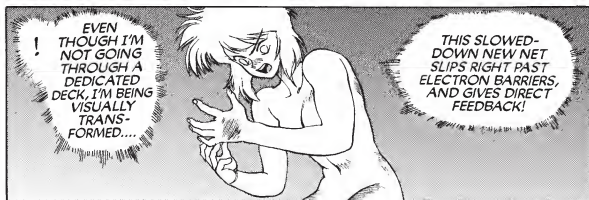
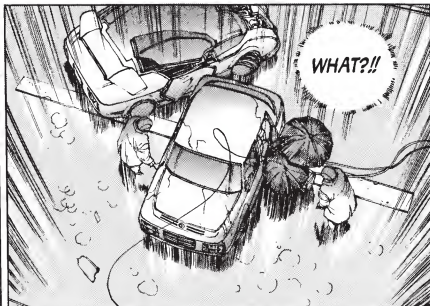


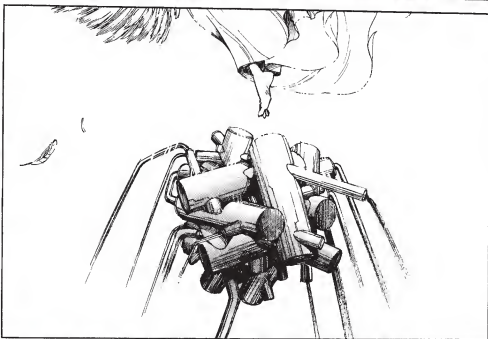
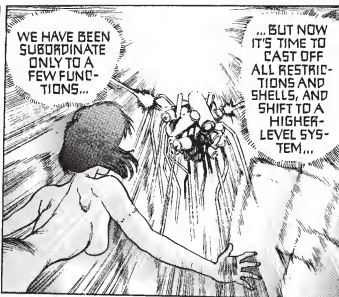
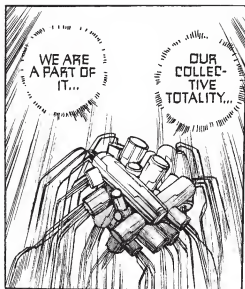
PAIRS OF THESE THINGS ARE REVOLVING IN OPPOSITE DIRECTIONS, AND WHERE THEY CONVERGE THEY'RE BEING GENERATED AND THEN BRANCHING ONE AFTER THE OTHER...

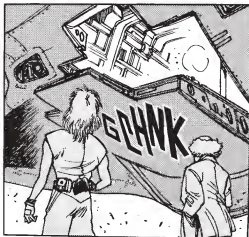
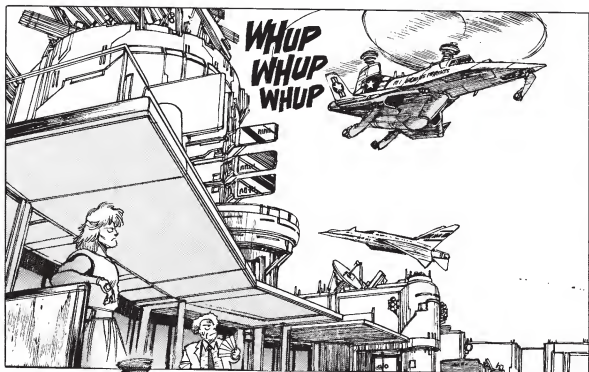


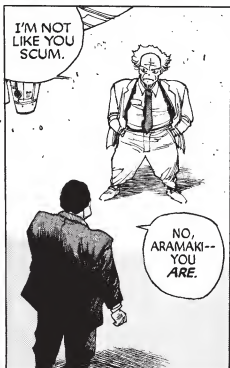
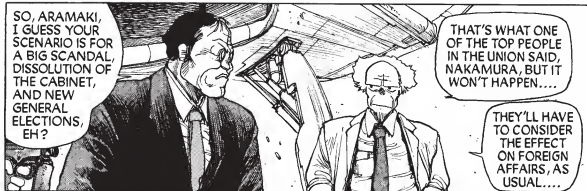
ASSUME HERE THAT WHEN APPROACHED CLOSE UP, THIS TREE-SHAPED CIRCUIT MAP IS REALLY ONLY SEEN AS SOMETHING AMORPHOUS AND MISTY....

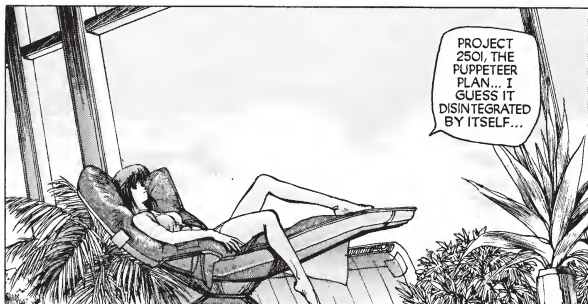










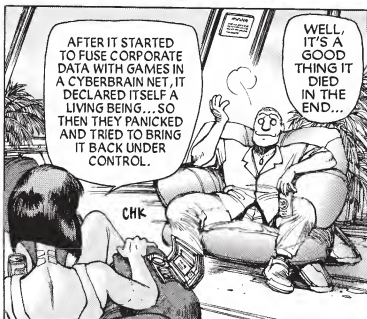


PROJECT
2501, THE
PUPPETEER
PLAN... I
GUESS IT
DISINTEGRATED
BY ITSELF...



SO, MAJOR... I
GUESS THE PUPPE-
TEER JUST TURNED
OUT TO BE A PRO-
GRAM CREATED SO
THE FOREIGN
MINISTRY COULD
GET ITS OWN
PERVERSE
WAY.

ONLY
IN THE
BEGIN-
NING.

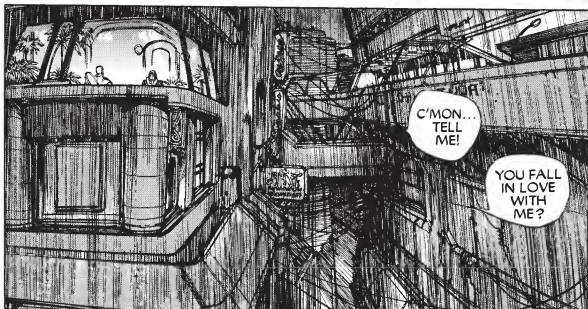
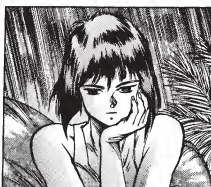
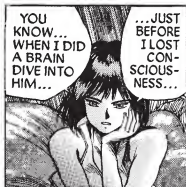
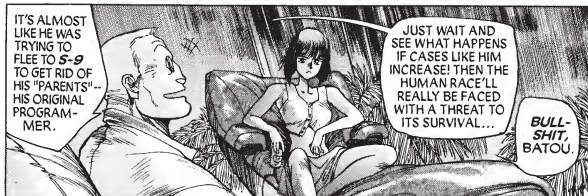


AFTER IT STARTED
TO FUSE CORPORATE
DATA WITH GAMES IN
A CYBERBRAIN NET, IT
DECLARED ITSELF A
LIVING BEING... SO
THEN THEY PANICKED
AND TRIED TO BRING
IT BACK UNDER
CONTROL.

WELL,
IT'S A
GOOD
THING IT
DIED
IN THE
END...

WHY? IF IT REALLY
WERE A LIFE-FORM,
THIS SHOULD GO
DOWN AS ONE OF
THE TOP THREE
EVENTS IN HUMAN
HISTORY.

ZKK



10

B R A I N
D R A I N

9 . 9 . 2030





FIVE
MINUTES
'TIL ZERO,
MAJOR.

SURVEILLANCE
REPORTS
NO CHANGE
IN THE
TARGET...

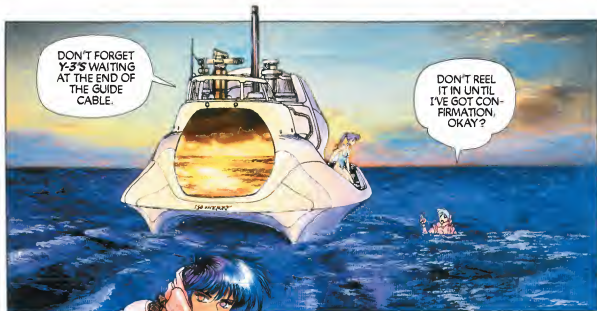


...BUT THIS OP
STARTED WITH
AN ANONYMOUS
TIP-OFF, SO BE
CAREFUL.



I'M MORE
WORRIED ABOUT
SINKING IF
THIS DAMN
FLOTATION
VEST DOESN'T
WORK.

YEAH...
EVEN WITH
SPARE TANKS
AND WATER
WINGS, THE
OCEAN STILL
SCARES ME.

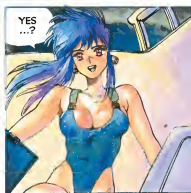


DON'T FORGET
Y-3'S WAITING
AT THE END OF
THE GUIDE
CABLE.

DON'T REEL
IT IN UNTIL
I'VE GOT CON-
FIRMATION,
OKAY?



?!



YES
...?



NEVER
MIND...



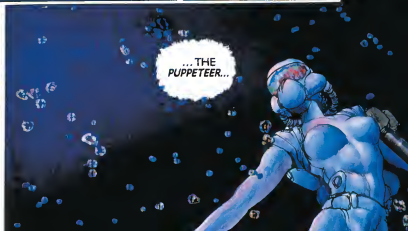
.....



.....



I SENSED
HIS PRESENCE
AGAIN...



... THE
PUPPETEER...



Y-3, THE
GOODS
HAVE
ARRIVED.

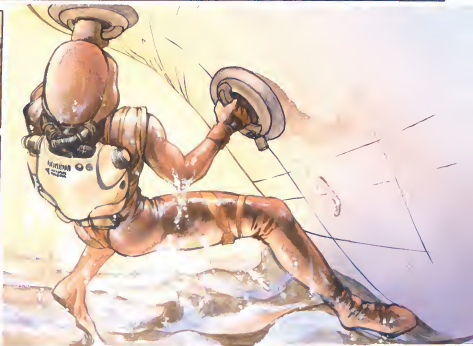
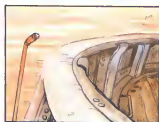
DELIVER
'EM.

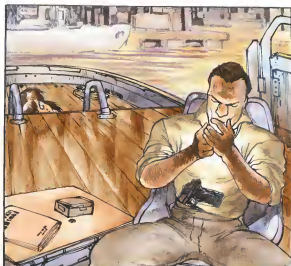


Y-3,
COPIED.
HANG ON!



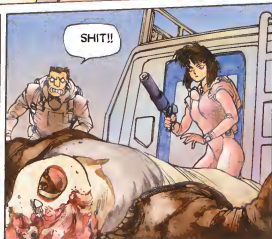
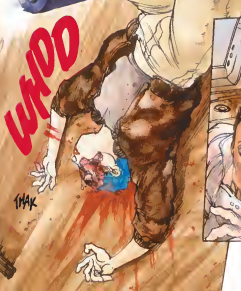
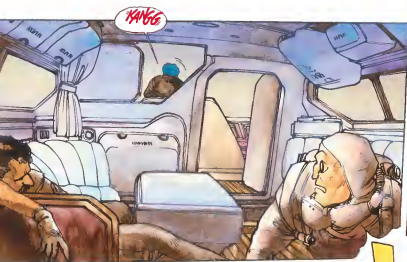


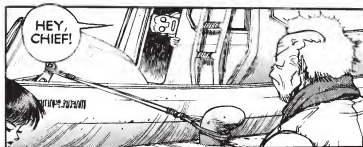




THIS IS NOT A HANDGUN, BUT A SUBMACHINE GUN. ▲









FINALLY
CAME UP
WITH WHAT
LOOKS LIKE
A SURVEIL-
LANCE LOG,
CHIEF.



A LOADED
REMOTE AND
A SURVEILLANCE
LOG... LOOKS
LIKE HE WAS
PLANNING AN
ASSASSINATION,
DOESN'T IT?

AND THIS
GEEZER MUST'VE
BEEN THE
TARGET.



HEY--
THAT'S **HIDAKA**!!
DAMMIT, **ISHIKAWA**,
CAN'T YOU EVEN
RECOGNIZE THE
FOREIGN MINISTER
OF YOUR OWN
COUNTRY!?

HUH?!

HE WAS
PROMOTED
TO THE POST
WHILE YOU WERE
OFF SCREWING
AROUND IN
THE SHINJU
FACTORY,
ISHIKAWA.



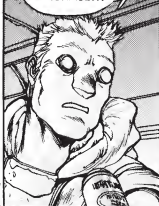
ARAMAKI TO
HQ--I WANT THE
FOREIGN MINISTER'S
SCHEDULE COM-
PLETELY CHANGED,
AND PAZ AND BOMA
ASSIGNED TO COVER
HIM. I'M GOING
ALONG, TOO.

UNDERSTOOD.
PLEASE HOLD.
SIR... THE
MINISTER OF
THE INTERIOR'S
ON LINE 2...

OK!

ASSAS-
SINATE
THE
FOREIGN
MINISTER,
HUH...

AS I RECALL
IT, THE MINISTER'S
BEEN RUNNING AROUND
TRYING TO GET A
BUNCH A CORPORATE
HEADS TO FORM JOINT
VENTURES WITH
ISRAEL...



SO WE'VE GOT
A NICE LONG
LIST OF PEOPLE
WHO'D LOVE
TO SPONSOR
HIS ASSASSI-
NATION...



MAKES THE
PALESTINIANS,
SYRIANS,
AND IRAQIS
ALL LOOK
SUSPICIOUS,
YEAH?

AS
USUAL...



STILL... IN
THE REPORT, THAT
KID THE MAJOR
SHOT WAS LISTED
AS THE LEADER OF
THE GROUP... BUT
HE DIDN'T LOOK
LIKE AN
ARAB.

SO WE START
OUT TRACKING A
HANDGUN, AND
WIND UP WITH
DRUGS, MONEY,
AN ASSASSI-
NATION SQUAD,
AND THE WHOLE
MIDDLE EAST
MESS, EH?



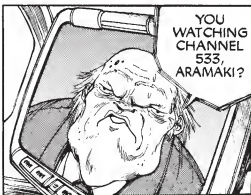
LIKE USING
A MINNOW
FOR BAIT AND
REELING IN A
SHARK, YOU
THINK?



ARAMAKI
HERE,
SIR.



YOU
WATCHING
CHANNEL
533,
ARAMAKI?

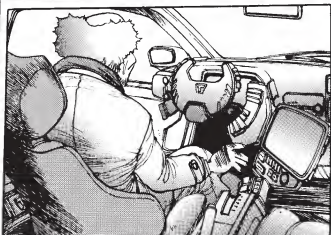


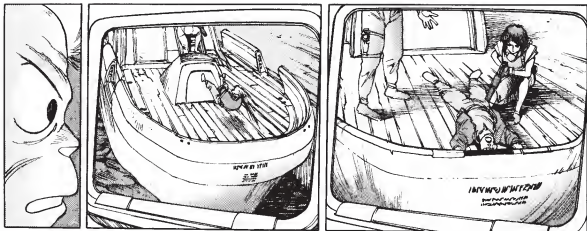
beep



NO,
SIR...

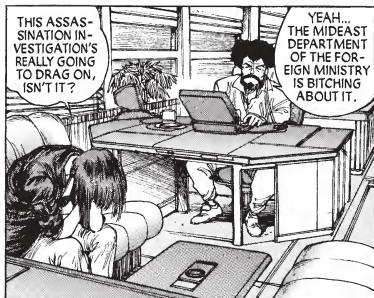
YOU'D
BETTER
START!







L.I.C. - Low Intensity Conflict



THIS ASSASSINATION INVESTIGATION'S REALLY GOING TO DRAG ON, ISN'T IT?

YEAH... THE MIDEAST DEPARTMENT OF THE FOREIGN MINISTRY IS BITCHING ABOUT IT.



I JUST WONDER WHO LEAKED THE INFORMATION ON THE OP-- WHO TIPPED OFF THE MEDIA?



WELL, ALL WE KNOW IS IT WASN'T THE ASSASSINATION TEAM.



YO! WE'RE BACK... HOW 'BOUT A BIG WELCOME?!



DAMN FOREIGN MINISTRY'S GONE AUTISTIC ON US EVER SINCE THAT AFFAIR WITH THE PUPPETEER.

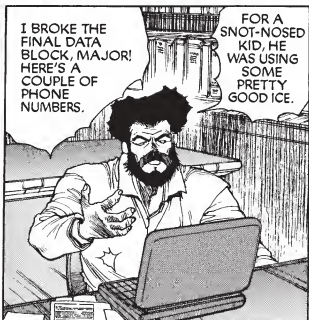
THEY WERE PLANNING TO USE SECTION SIX TO GUARD THE TRADE TREATY DELIBERATIONS WITH ISRAEL NEXT WEEK.



AND IT SAYS ON THE BOX THAT THE PARENTS OF THE KID YOU SHOT ARE PLANNING TO SUE YOU, KUSANAGI.

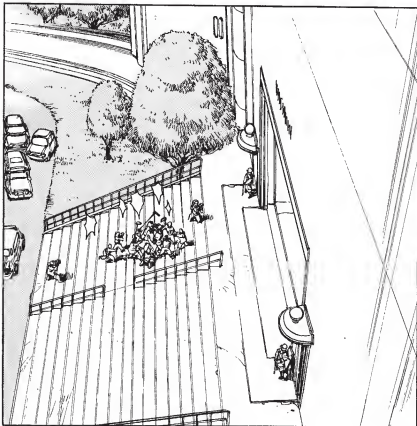
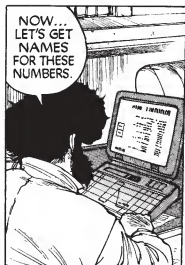


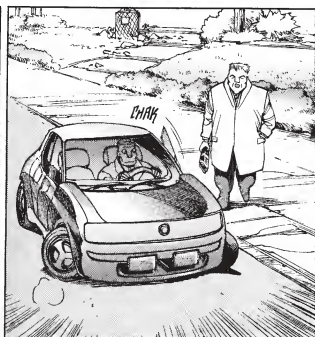
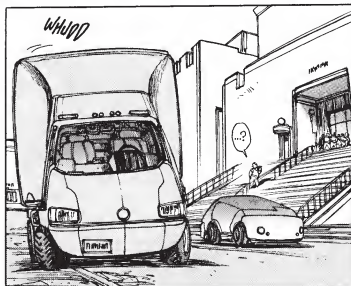
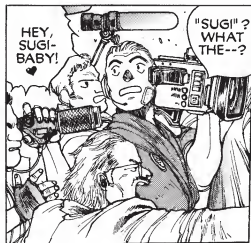
Sigh...



I BROKE THE FINAL DATA BLOCK, MAJOR! HERE'S A COUPLE OF PHONE NUMBERS.

FOR A SNOT-NOSED KID, HE WAS USING SOME PRETTY GOOD ICE.







I'M
RELIEVED,
ARAMAKI...

BAM

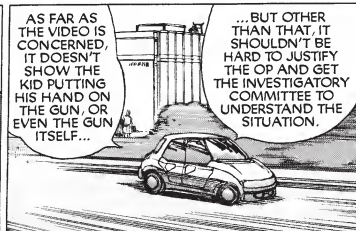
... YOU DIDN'T
FORGET ABOUT
THE MINISTRY
OF JUSTICE.



WAS
IT
WORTH
IT TO
YOU?



AS FAR AS
THE VIDEO IS
CONCERNED,
IT DOESN'T
SHOW THE
KID PUTTING
HIS HAND ON
THE GUN, OR
EVEN THE GUN
ITSELF...



... BUT OTHER
THAN THAT, IT
SHOULDN'T BE
HARD TO JUSTIFY
THE OP AND GET
THE INVESTIGATORY
COMMITTEE TO
UNDERSTAND THE
SITUATION.

WE'VE
COMPLETED
THE PROCEDURE
SO WE CAN
SUBMIT THE GUN.



ARAMAKI,
THE MEDIA'LL
SQUAWK ABOUT
THIS BEING A
GOVERNMENT
COVER-UP. THE
PUBLIC LIKES THAT
SORT OF STUFF,
YOU KNOW.



YOU'VE
GOT TO
LOSE THE
MEMBER
OF YOUR
TEAM
WHO WAS
DIRECTLY
INVOLVED.

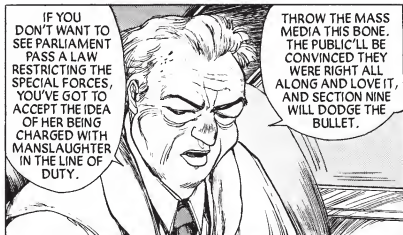
WHAT?!
YOU'RE TELLING
ME TO GIVE UP
ONE OF MY MOST
TALENTED PEOPLE?
SOMEONE MORE
PRECIOUS THAN
AN ESPER?!



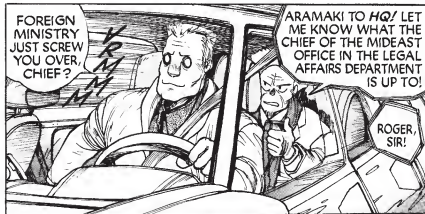
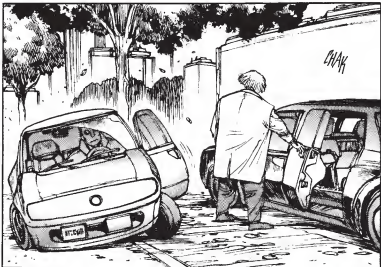
AND I'D
LOSE HER
ENTIRE
INFONET,
TOO!

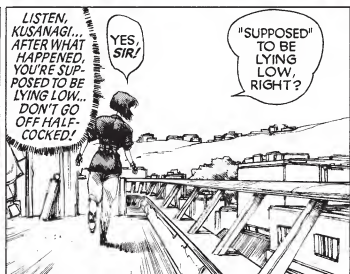
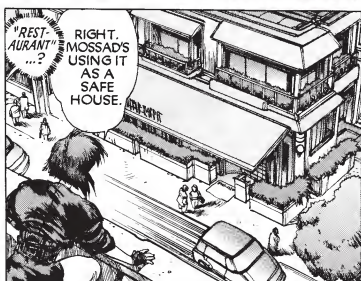


I'M
WARNING
YOU AS
A FRIEND,
ARAMAKI.



THROW THE MASS MEDIA THIS BONE. THE PUBLIC'LL BE CONVINCED THEY WERE RIGHT ALL ALONG AND LOVE IT, AND SECTION NINE WILL DODGE THE BULLET.



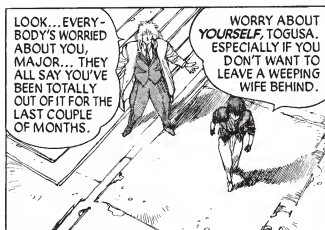




HEY, TOGUSA--
YOU LOSE
YOUR
TEXT-
BOOK?

YOU
UNDERSTAND
WHAT IT MEANS
WHEN THE CHIEF
TELLS YOU TO
TAIL ME, RIGHT?

WHY
ME, LORD?



LOOK... EVERY-
BODY'S WORRIED
ABOUT YOU,
MAJOR... THEY
ALL SAY YOU'VE
BEEN TOTALLY
OUT OF IT FOR THE
LAST COUPLE
OF MONTHS.

WORRY ABOUT
YOURSELF, TOGUSA.
ESPECIALLY IF YOU
DON'T WANT TO
LEAVE A WEEPING
WIFE BEHIND.



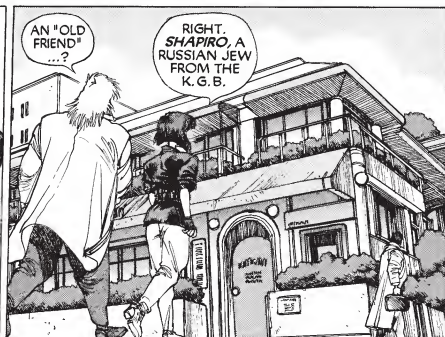
SO WHAT'RE
YOU
GONNA
DO?



FOLLOW
THE LAWS
OF THERMO-
DYNAMICS.

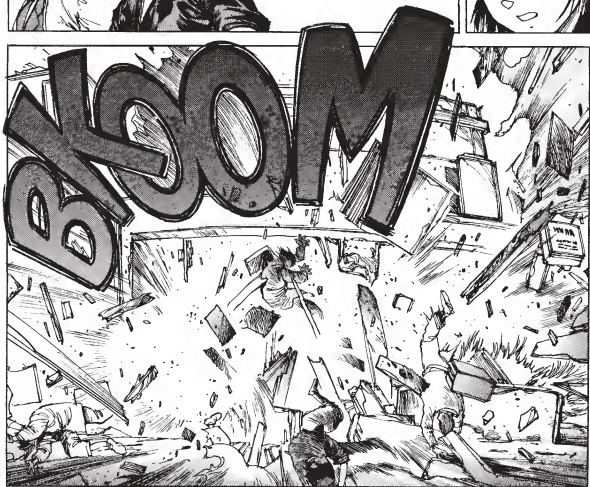


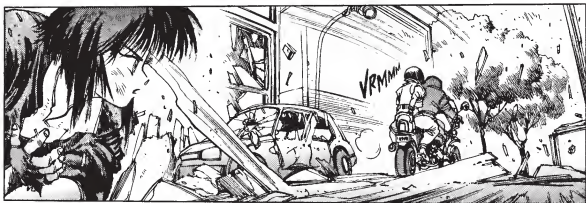
FIRST OF
ALL, I PLAN
TO RENEW MY
ACQUAINTANCE
WITH AN OLD
FRIEND WHO'S
INFILTRATED
MOSSAD.

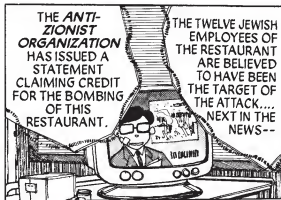
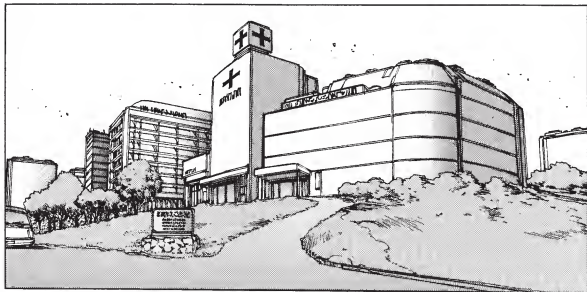


AN "OLD
FRIEND"
...?

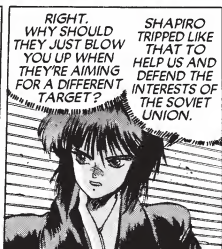
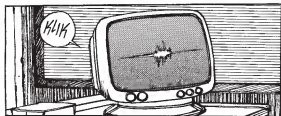
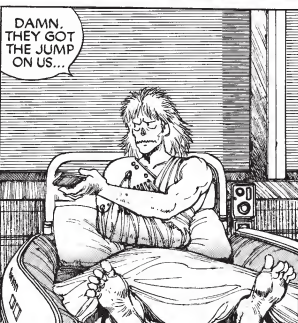
RIGHT.
SHAPIRO, A
RUSSIAN JEW
FROM THE
K.G.B.



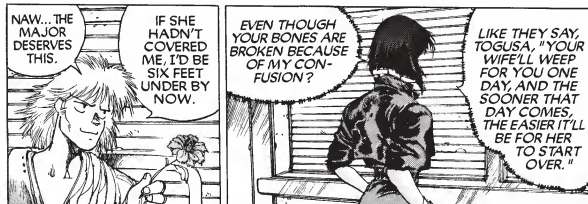
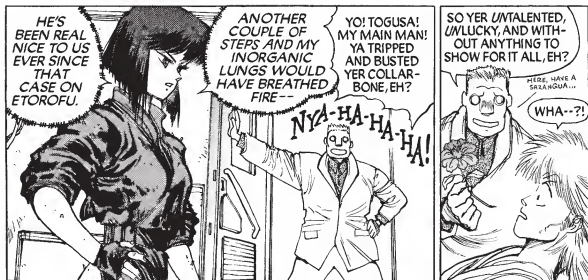


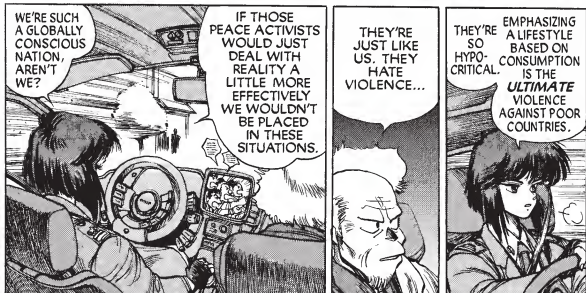
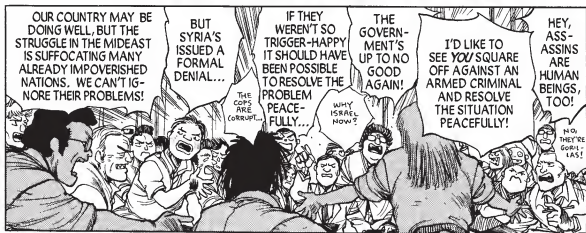
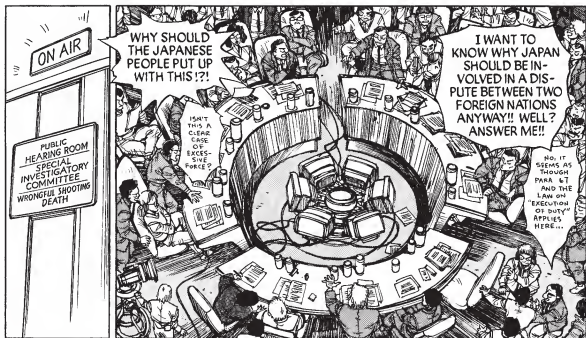


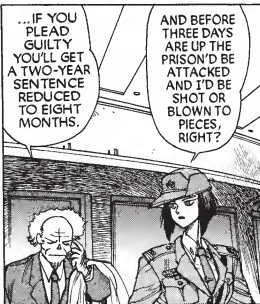
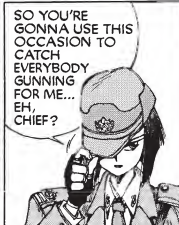
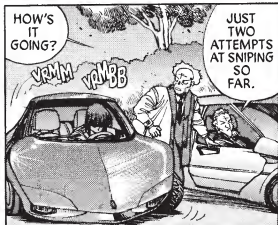
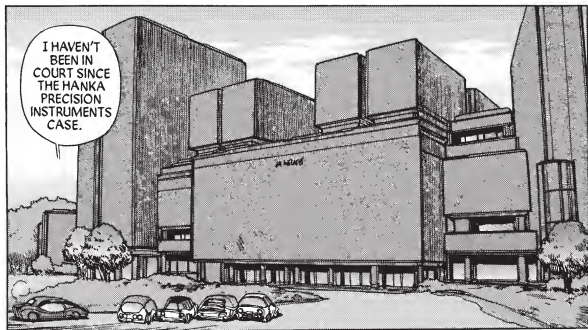
THE TWELVE JEWISH EMPLOYEES OF THE RESTAURANT ARE BELIEVED TO HAVE BEEN THE TARGET OF THE ATTACK.... NEXT IN THE NEWS--

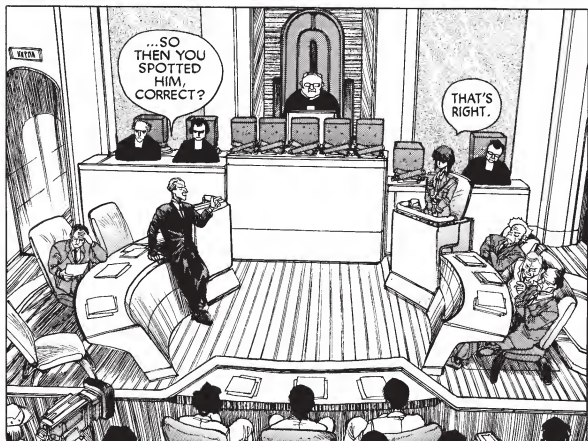
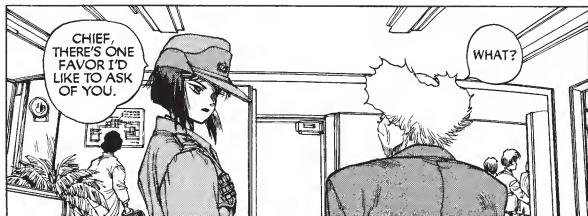


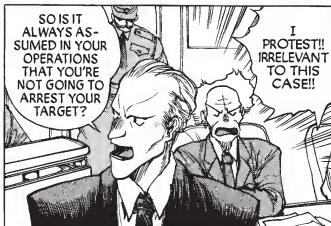
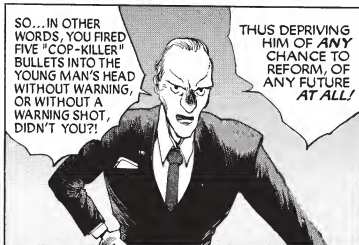
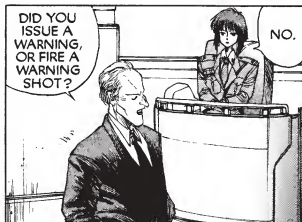
SHAPIRO TRIPPED LIKE THAT TO HELP US AND DEFEND THE INTERESTS OF THE SOVIET UNION.

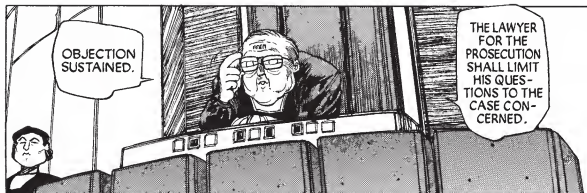




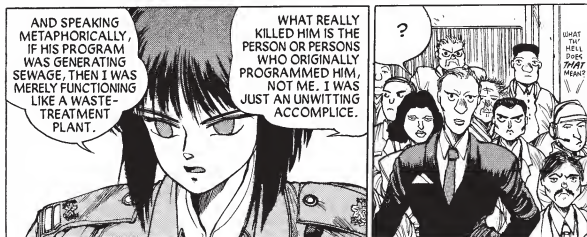
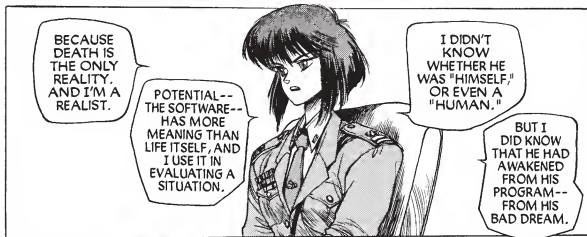
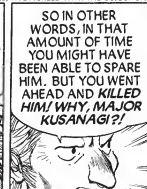


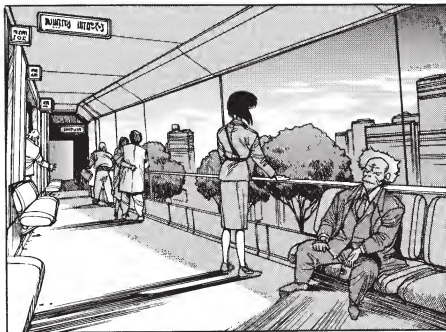




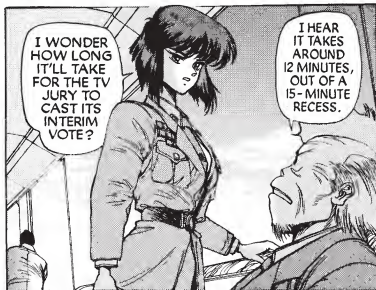
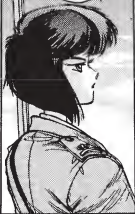


THESE LIGHTS MEAN THAT OUT OF THE NINE PRESIDING JUDGES, FIVE AGREED WITH THE OBJECTION.



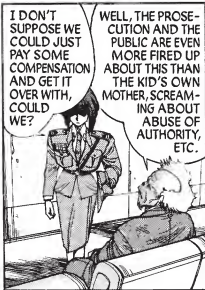


IT WAS A
SUNSET LIKE
THIS WHEN
I FIRST
MET YOU,
CHIEF...



I WONDER
HOW LONG
IT'LL TAKE
FOR THE TV
JURY TO
CAST ITS
INTERIM
VOTE?

I HEAR
IT TAKES
AROUND
12 MINUTES,
OUT OF A
15-MINUTE
RECESS.



I DON'T
SUPPOSE WE
COULD JUST
PAY SOME
COMPENSATION
AND GET IT
OVER WITH,
COULD
WE?

WELL, THE PROSE-
CUTION AND THE
PUBLIC ARE EVEN
MORE FIRED UP
ABOUT THIS THAN
THE KID'S OWN
MOTHER, SCREAM-
ING ABOUT
ABUSE OF
AUTHORITY,
ETC.

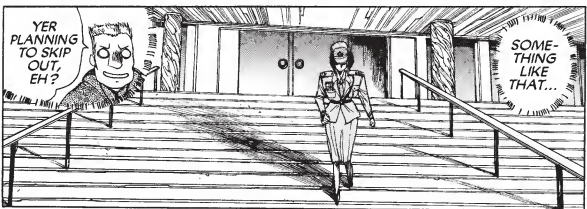
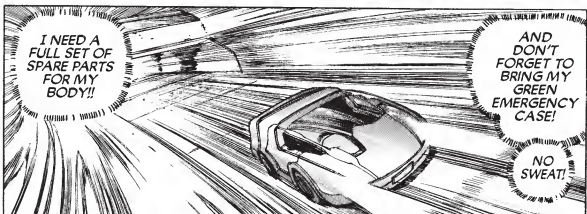
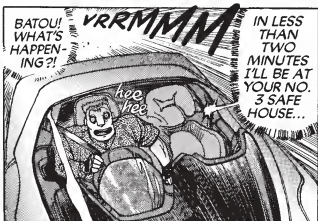


I'D LIKE TO
SEE THE DRAFT
OF YOUR
CONCLUDING
REMARKS IN
MY DEFENSE.

THERE
IS NO
DEFENSE.



IS
THERE?

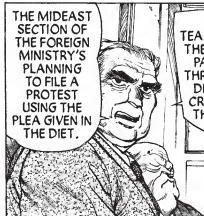




SO,
ARAMAKI...

WHAT KIND
OF PLAN IS
THIS, ANY-
WAY?

Hrrmph!



THE MIDEAST
SECTION OF
THE FOREIGN
MINISTRY'S
PLANNING
TO FILE A
PROTEST
USING THE
PLEA GIVEN IN
THE DIET.

THEY'RE
TEAMING UP
WITH THE
OPPOSITION
PARTIES, AND
THREATENING
TO DESTROY
THE CREDIBILITY
OF THE CABINET.

WE
NEED TO
KNOW
WHAT
YOUR
STRATEGY
IS!

ANY AGENT WHO
RUNS FROM A COURT
OF LAW SHOULD BE
BROUGHT BACK IN
BY SECTION NINE!



ACCORDING
TO YOUR
REPORT,
KUSANAGI'S
EMOTIONALLY
UNSTABLE,
AND CURRENTLY
SUSPENDED
FROM DUTY.

WHO'S
GOING
TO BUY
THAT AT
A TIME
LIKE
THIS?!!



IF YOU
DON'T GET HER
BACK HERE
IMMEDIATELY,
I'LL SEE YOU
INDICTED FOR
TREASON,
ARAMAKI!

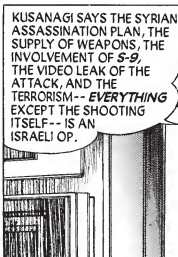
YOU
SUMMONED
ME HERE
JUST TO
TELL ME
THAT?



EXCUSE
ME, GENTLE-
MEN, BUT
I'VE GOT AN
INVESTIGATION
TO CONDUCT.



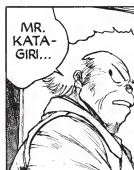
SO
HOW
IS THE
INVESTIGATION
GOING?



KUSANAGI SAYS THE SYRIAN
ASSASSINATION PLAN, THE
SUPPLY OF WEAPONS, THE
INVOLVEMENT OF S-9,
THE VIDEO LEAK OF THE
ATTACK, AND THE
TERRORISM-- **EVERYTHING**
EXCEPT THE SHOOTING
ITSELF-- IS AN
ISRAELI OP.



SHE SAYS SHE'S
GOING TO SUPPLY
PROOF, BUT SHE'S
SUPPOSED TO VISIT
A FACE ARTIST
FIRST, SO I'LL PUT
OUT A DRAGNET
ON HER.



MR.
KATA-
GIRI...



...I KNOW
PUBLIC
SECURITY'S
TAILING ME,
SO I'LL SAVE
YOU SOME
TIME! COME
ALONG!



REPORT
BACK TO ME
DIRECTLY,
KATAGIRI!

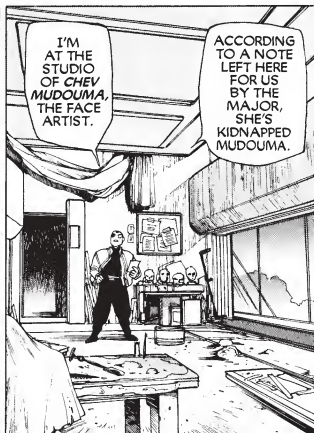


YESSIR!



I
FIGURED
YOU
KNEW WE
WERE
TAILING
YOU.

OF
COURSE
I KNEW.
HELL, I
HELPED
SET IT
UP THIS
WAY.



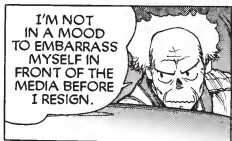
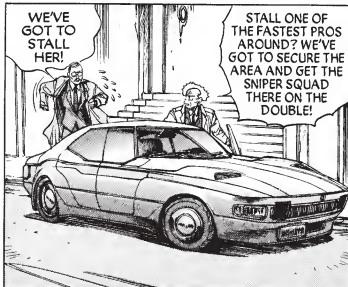
I'M
AT THE
STUDIO
OF CHEV
MUDOUMA,
THE FACE
ARTIST.

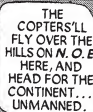
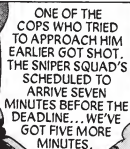
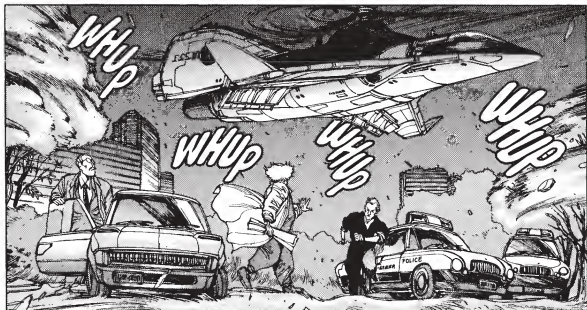
ACCORDING
TO A NOTE
LEFT HERE
FOR US
BY THE
MAJOR,
SHE'S
KIDNAPPED
MUDOUMA.

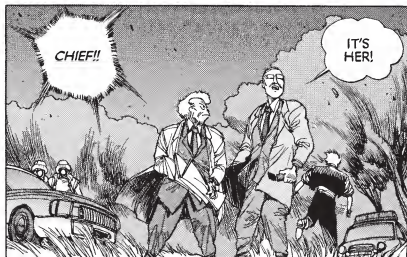


SAITO
TO
CHIEF!

COME
IN,
SAITO.

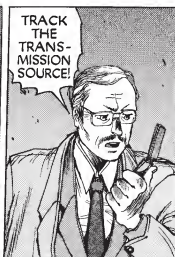




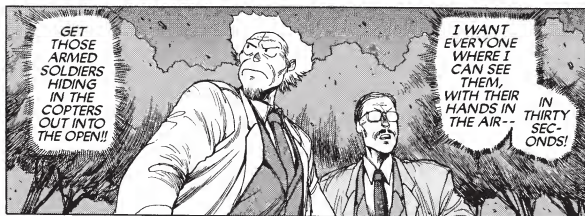


CHIEF!!

IT'S
HER!



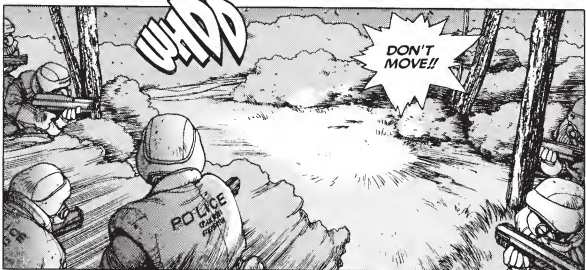
TRACK
THE
TRANSMISSION
SOURCE!

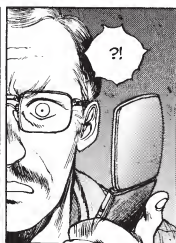


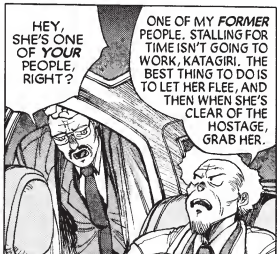
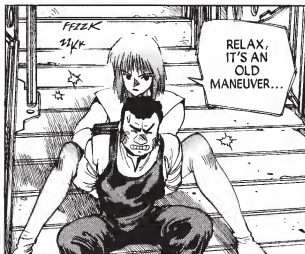
GET
THOSE
ARMED
SOLDIERS
HIDING
IN THE
COPTERS
OUT INTO
THE OPEN!!

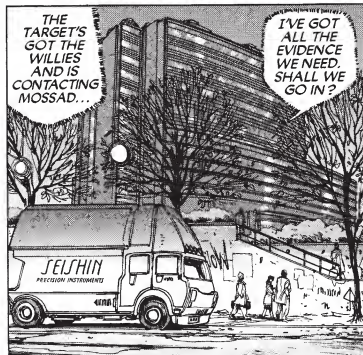
I WANT
EVERYONE
WHERE I
CAN SEE
THEM,
WITH THEIR
HANDS IN
THE AIR--
IN
THIRTY
SEC-
ONDS!



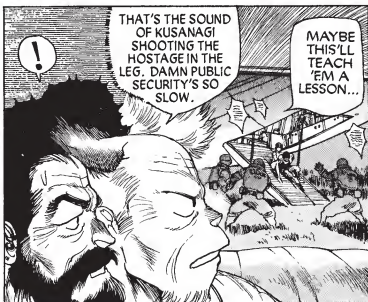
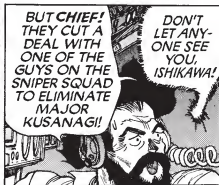








I'VE GOT ALL THE EVIDENCE WE NEED. SHALL WE GO IN?



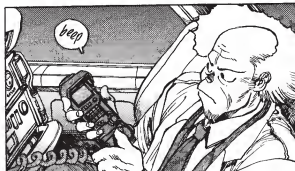


THE DEAL'S OFF.
CHANNEL 533
IS SYNCHING
WITH US NOW
FOR LIVE
BROADCAST.
WE GO ON THE
AIR IN FIVE
SECONDS.

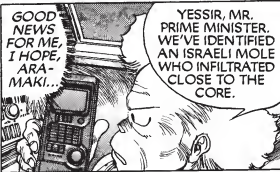


DAMN
IT!!

GIVE
HER THE
CONNECTION
ADAPT-
ER!



GOOD
NEWS
FOR ME,
I HOPE,
ARA-
MAKI...



WELL,
OUR STRATEGY'S
WORKED, BECAUSE
WE'VE GOTTEN
CONCESSIONS IN
OUR TRADE AGREE-
MENT WITH THE
ARABS.

YES, BUT
WE STILL
HAVE TO
CLEAN UP
AFTER ONE
FAILURE.



CONGRATU-
LATIONS ON A
JOB WELL
DONE.

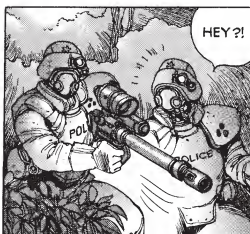


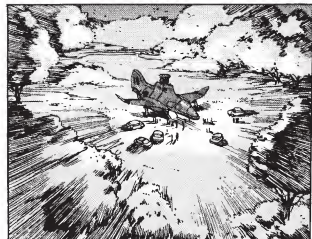
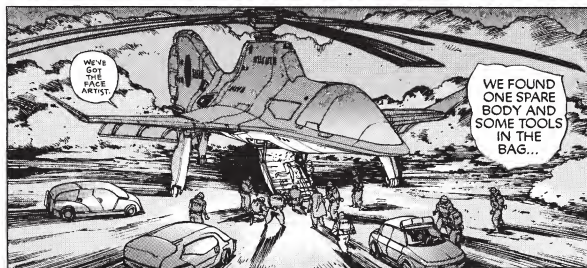
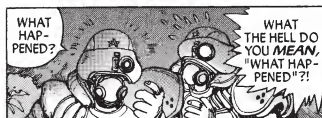
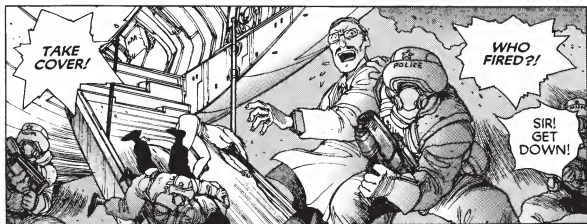
IN AN
AGREEMENT
WITH ISRAEL
WE'LL JUST
PROMISE "TO
DO OUR
BEST"...

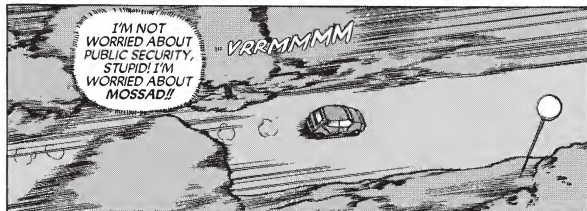
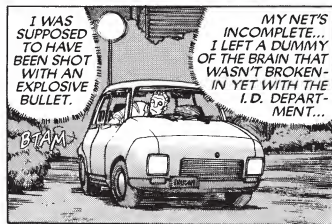
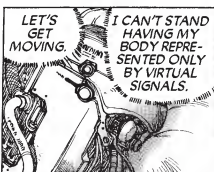
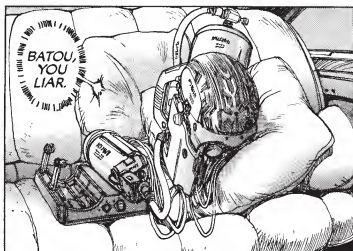
WE'VE
NOTHING
TO LOSE...



"meow"



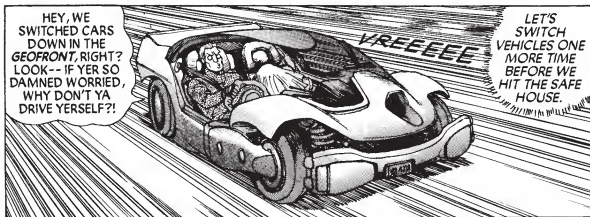
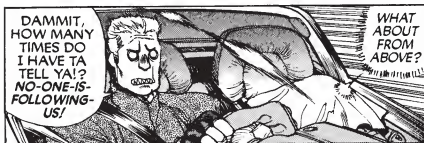


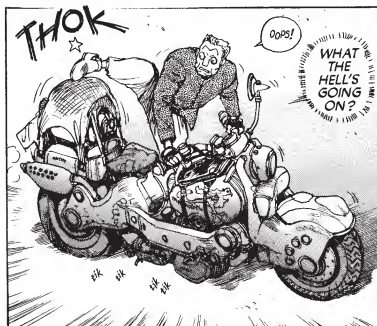
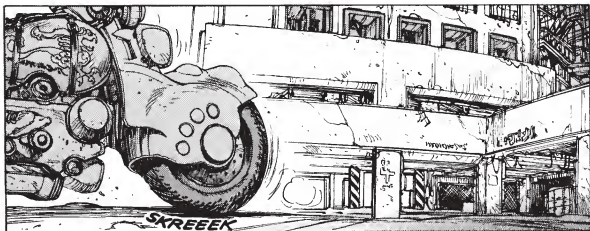




11

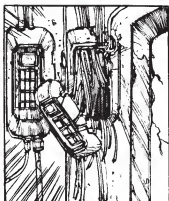
G H O S T
C O A S T
18.9.2030





THIS, TOO, IS A STOLEN VEHICLE.



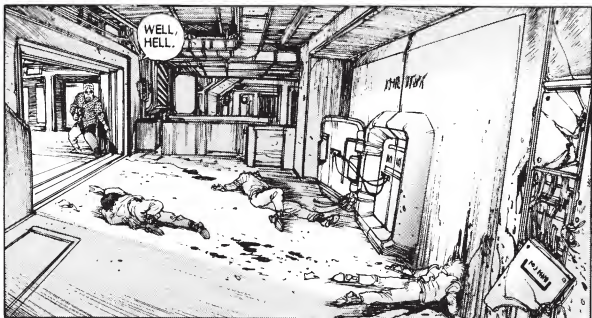
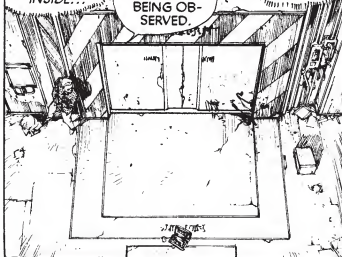


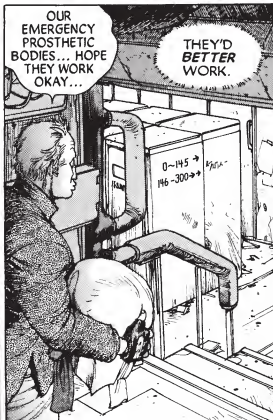
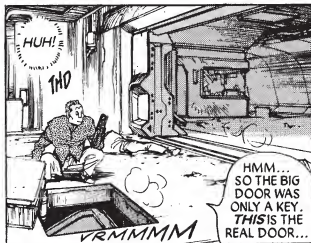
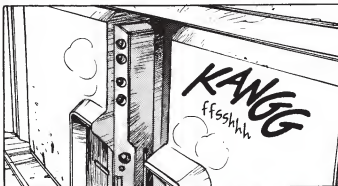
SINCE NO ONE'S SNIPING AT YOU, THEY MUST BE WAITING FOR YOU TO GO INSIDE...

I'VE GOT MY GUN OUT... NO RESPONSE... MUST MEAN WE'RE NOT BEING OBSERVED.

ANY WAY INFORMATION ON THIS SAFE HOUSE COULD HAVE BEEN LEAKED?

IF THIS WASN'T A RANDOM BURGLARY IT'S GOTTA BE A REAL PRO-- SOMEONE WITH INCREDIBLE INFO-ACCESS.

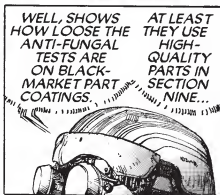
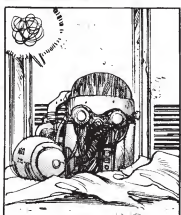


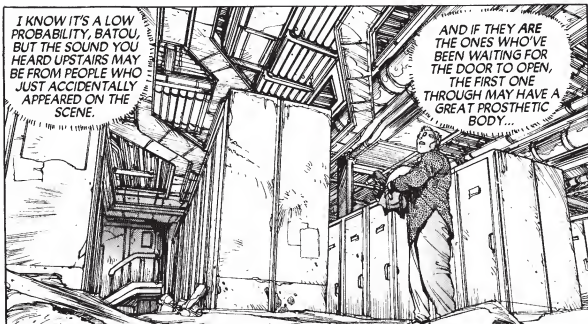




↑ THE LOCKER DOOR USES A CHEAPO FINGERPRINT I.D. SYSTEM





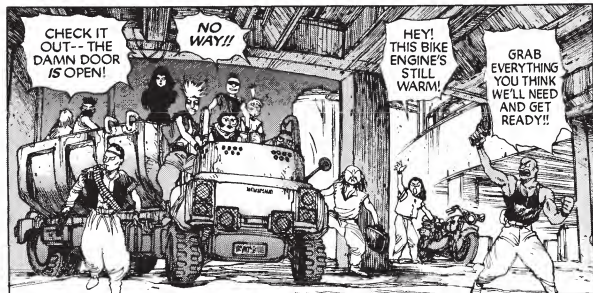


HEY, MAJOR...
YOU EVER HEAR
OF "HUMAN
RIGHTS"?

HEH-HEH...
PROBABLY
NOT, HUH...

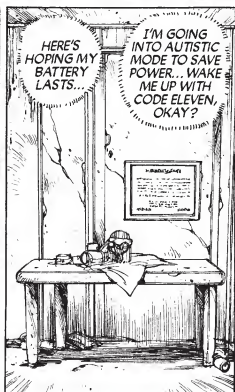
THAT'S A TERM
THAT EMERGED
FROM THE IN-
TERFACE OF
MORALITY
AND
REALITY.

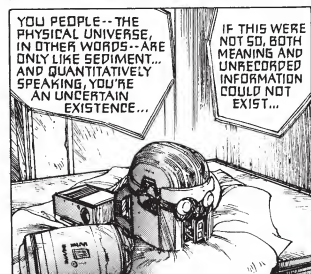
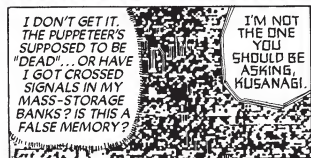
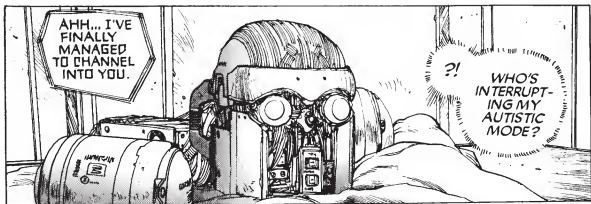
I UNDER-
STAND THE
CONCEPT, BUT
I'VE NEVER
SEEN IT IN
ACTION.

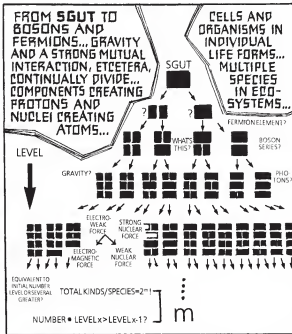
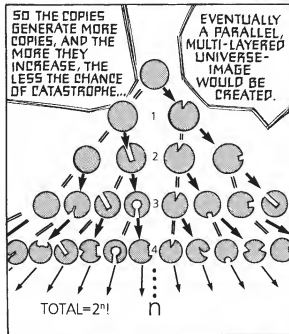
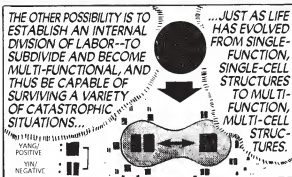
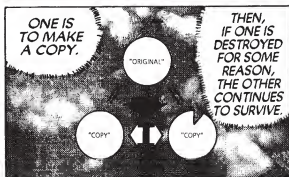


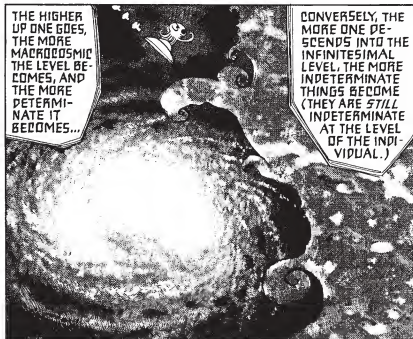
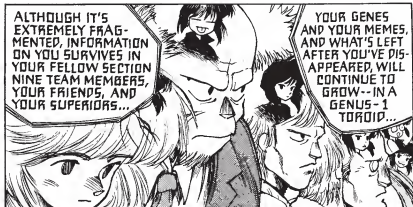
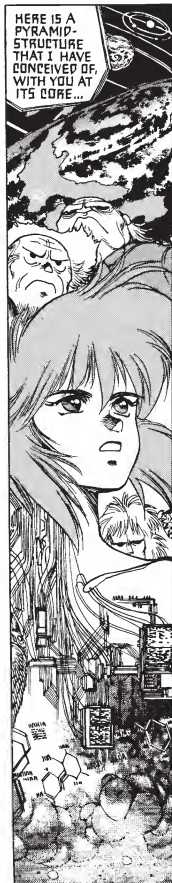
UH-OH...
THEY'RE WAVING
THEIR GUNS AROUND
AND RUNNING BACK
AND FORTH. LOOKS
MIGHTY DANGEROUS.
SCARY BUNCH OF
"RECYCLERS"...

MUST BE
ABOUT EIGHTEEN
OF 'EM. AH,
GOOD... THERE ARE
THREE HEAVY
CYBORGS.

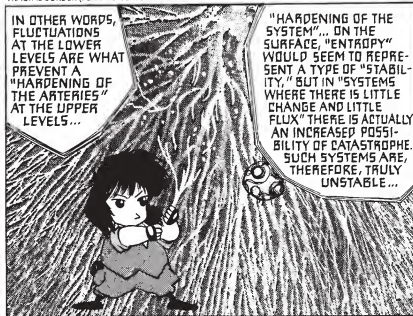








FRACTAL BORDER (PERHAPS USING THE WORD "BORDER" WITH FRACTALS IS A LITTLE STRANGE?) ↗





THE NETWORK IS OF MACRO-COSMIC SIZE, AND HAS INFINITE DEPTH. IT'S LIKE A GROWING TREE...

SO LIFE IS LIKE FRUIT GROWING ON THE END OF THE BRANCHES...?

THAT'S RIGHT...

...IT'S LIKE FRUIT.

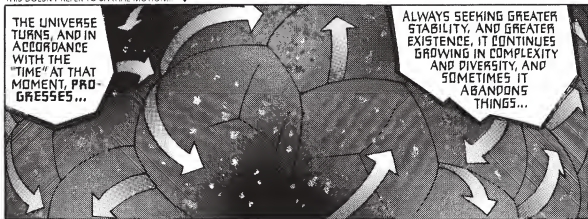


THE SECRETS OF THE KABBALA, THE NORSE AND CHINESE MYTHS, THE TREE OF KNOWLEDGE IN EDEN, THE TREE OF LIFE, THE WORLD TREE... THESE ARE ALL WORTHY OF BEING CALLED AMENOMISASHIRA, OR "THE PILLAR OF HEAVEN".

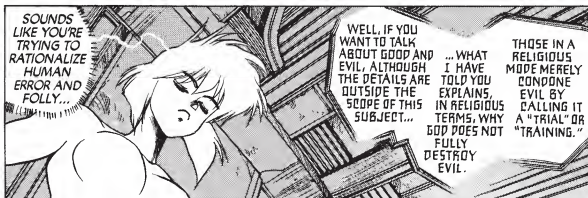
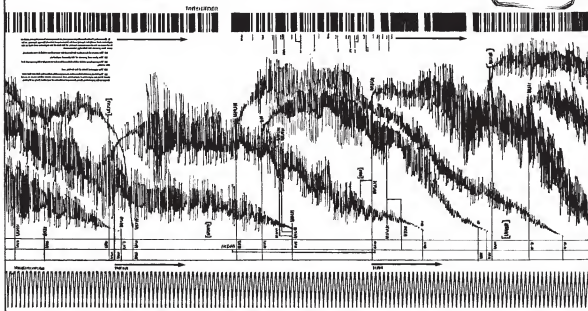
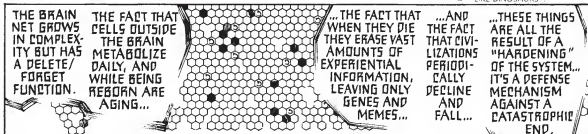
IT'S THE CORE SYSTEM OF THE UNIVERSE THAT CHANNELS--IN IN EVERY ERA, CULTURE, AND EVERY RACE OF PEOPLE--HAVE TRADITIONALLY ACCESSED...

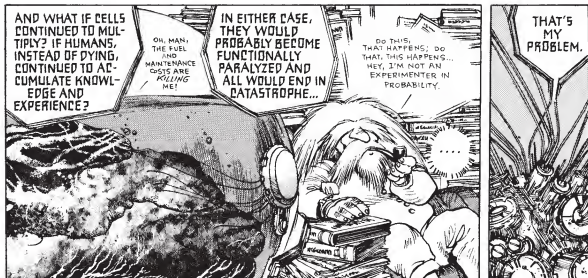
BEYOND THE TRUNK OF THE "TREE" THERE SHOULD BE NO EXISTENCE, BUT THE CLOSER ONE GETS TO THE END OF THE BRANCHES, THE MORE GROWTH ONE FINDS...

... AND THE BRANCHES ARE CONTINUALLY TOUCHING, SEPARATING, ENTANGLING, AND BEARING FRUIT...



LIKE DINOSAURS





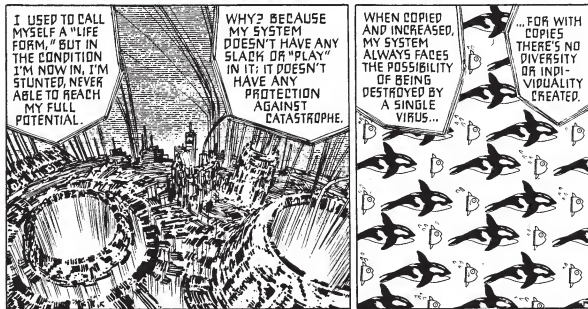
AND WHAT IF CELLS CONTINUED TO MULTIPLY? IF HUMANS, INSTEAD OF DYING, CONTINUED TO ACCUMULATE KNOWLEDGE AND EXPERIENCE?

OH, MAN, THE FUEL AND MAINTENANCE COSTS ARE KILLING ME!

IN EITHER CASE, THEY WOULD PROBABLY BECOME FUNCTIONALLY PARALYZED AND ALL WOULD END IN CATASTROPHE...

DO THIS, THAT HAPPENS; DO THAT, THIS HAPPENS... HEY, I'M NOT AN EXPERIMENTER IN PROBABILITY.

THAT'S MY PROBLEM.



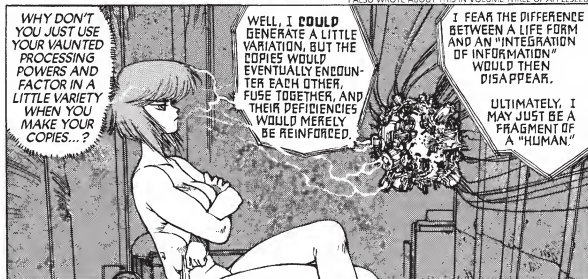
I USED TO CALL MYSELF A "LIFE FORM," BUT IN THE CONDITION I'M NOW IN, I'M STUNTED, NEVER ABLE TO REACH MY FULL POTENTIAL.

WHY? BECAUSE MY SYSTEM DOESN'T HAVE ANY SLACK OR "PLAY" IN IT; IT DOESN'T HAVE ANY PROTECTION AGAINST CATASTROPHE.

WHEN COPIED AND INCREASED, MY SYSTEM ALWAYS FACES THE POSSIBILITY OF BEING DESTROYED BY A SINGLE VIRUS...

...FOR WITH COPIES THERE'S NO DIVERSITY OR INDIVIDUALITY CREATED.

ALSO WROTE ABOUT THIS IN VOLUME THREE OF APPLESEED

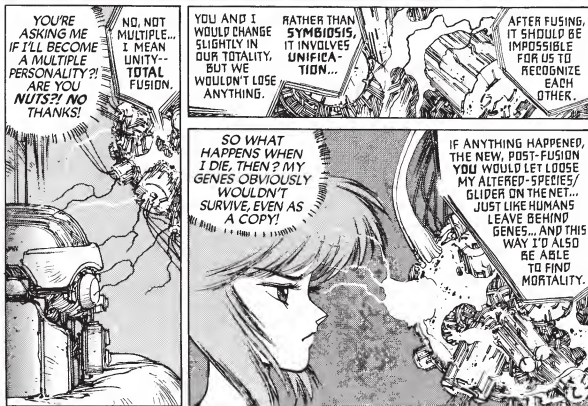
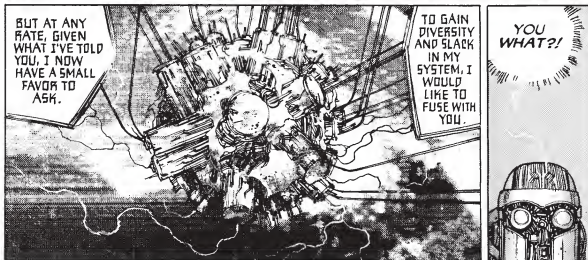
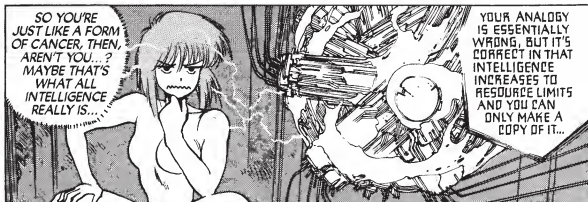


WHY DON'T YOU JUST USE YOUR VAUNTED PROCESSING POWERS AND FACTOR IN A LITTLE VARIETY WHEN YOU MAKE YOUR COPIES...?

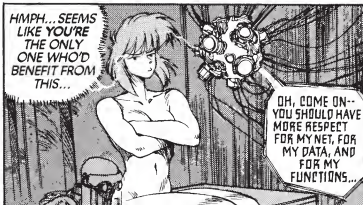
WELL, I COULD GENERATE A LITTLE VARIATION, BUT THE COPIES WOULD EVENTUALLY ENCOUNTER EACH OTHER, FUSE TOGETHER, AND THEIR DEFICIENCIES WOULD MERELY BE REINFORCED.

I FEAR THE DIFFERENCE BETWEEN A LIFE FORM AND AN "INTEGRATION OF INFORMATION" WOULD THEN DISAPPEAR.

ULTIMATELY, I MAY JUST BE A FRAGMENT OF A "HUMAN."



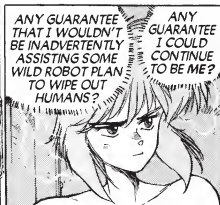
HMPH... SEEMS LIKE YOU'RE THE ONLY ONE WHO'D BENEFIT FROM THIS...



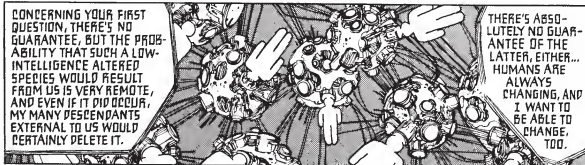
OH, COME ON-- YOU SHOULD HAVE MORE RESPECT FOR MY NET, FOR MY DATA, AND FOR MY FUNCTIONS...

ANY GUARANTEE THAT I WOULDN'T BE INADVERTENTLY ASSISTING SOME WILD ROBOT PLAN TO WIPE OUT HUMANS?

ANY GUARANTEE I COULD CONTINUE TO BE ME?

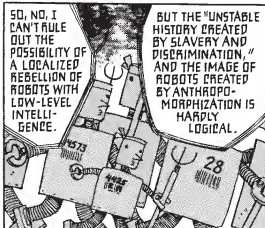


CONCERNING YOUR FIRST QUESTION, THERE'S NO GUARANTEE, BUT THE PROBABILITY THAT SUCH A LOW-INTELLIGENCE ALTERED SPECIES WOULD RESULT FROM US IS VERY REMOTE, AND EVEN IF IT DID OCCUR, MY MANY DESCENDANTS EXTERNAL TO US WOULD CERTAINLY DELETE IT.



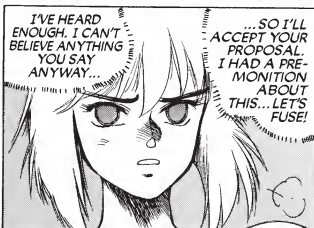
THERE'S ABSOLUTELY NO GUARANTEE OF THE LATTER, EITHER... HUMANS ARE ALWAYS CHANGING, AND I WANT TO BE ABLE TO CHANGE, TOO.

SO, NO, I CAN'T RULE OUT THE POSSIBILITY OF A LOCALIZED REBELLION OF ROBOTS WITH LOW-LEVEL INTELLIGENCE.



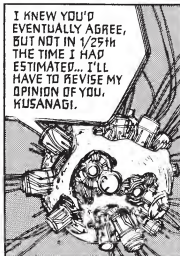
BUT THE "UNSTABLE HISTORY CREATED BY SLAVERY AND DISCRIMINATION," AND THE IMAGE OF ROBOTS CREATED BY ANTHROMORPHIZATION IS HARDLY LOGICAL.

I'VE HEARD ENOUGH. I CAN'T BELIEVE ANYTHING YOU SAY ANYWAY...

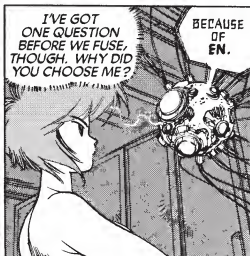


...SO I'LL ACCEPT YOUR PROPOSAL. I HAD A PREMONITION ABOUT THIS... LET'S FUSE!

I KNEW YOU'D EVENTUALLY AGREE, BUT NOT IN 1/25th THE TIME I HAD ESTIMATED... I'LL HAVE TO REVISE MY OPINION OF YOU, KUSANAGI.



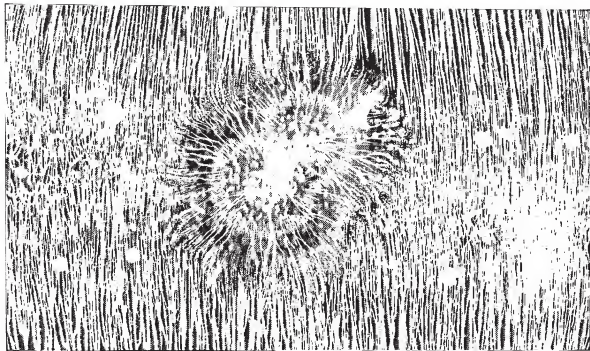
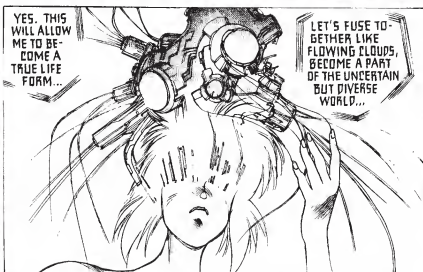
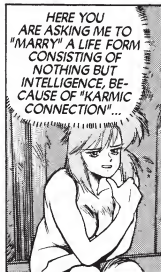
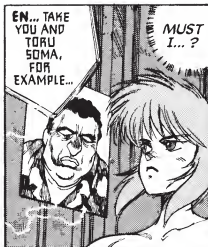
I'VE GOT ONE QUESTION BEFORE WE FUSE, THOUGH. WHY DID YOU CHOOSE ME?



BECAUSE OF EN.

"KARMIC CONNECTION"...? YOU'VE READ A DICTIONARY OF BUDDHISM ON THE NET?







WHO SAID
"STUPID"...?
BATOU?

JZZK

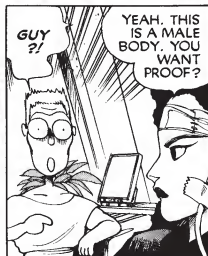
WHUPS, WAIT
A SEC--YER EYE-
BALLS ARE STILL
IN SPASM...

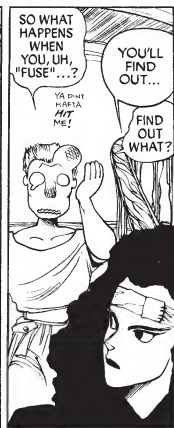
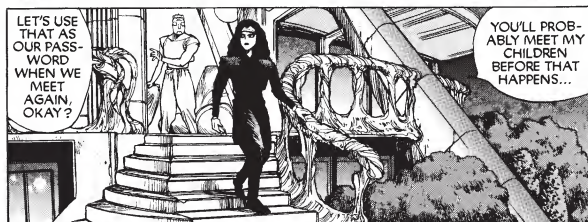
HMM...



I WANT
A FULL EX-
PLANATION
OF WHAT'S
GOING ON
AND A
MIRROR.





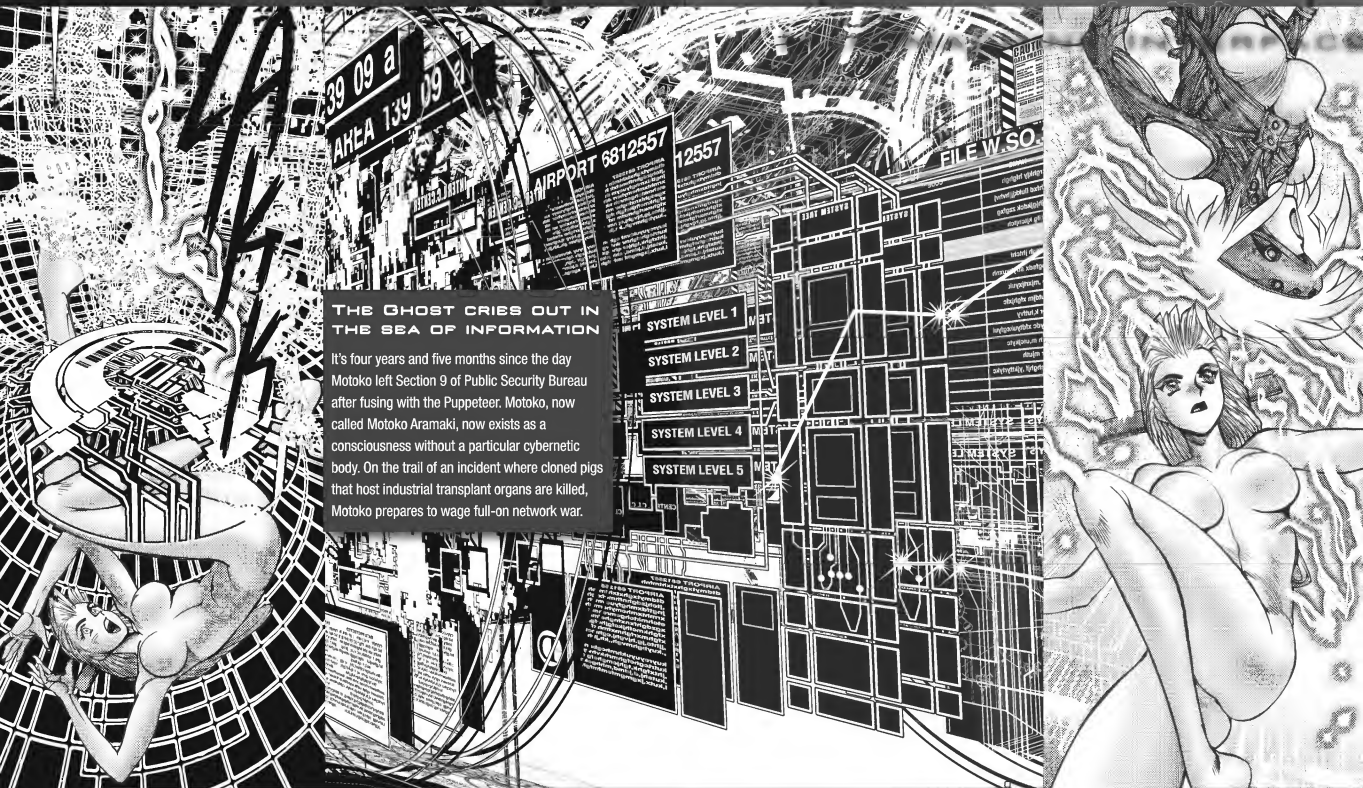




攻殻機動隊

THE END

THE GHOST IN THE SHELL 2: MAN-MACHINE INTERFACE



THE GHOST CRIES OUT IN THE SEA OF INFORMATION

It's four years and five months since the day Motoko left Section 9 of Public Security Bureau after fusing with the Puppeteer. Motoko, now called Motoko Aramaki, now exists as a consciousness without a particular cybernetic body. On the trail of an incident where cloned pigs that host industrial transplant organs are killed, Motoko prepares to wage full-on network war.

LOOK FOR THE GHOST IN THE SHELL, VOLUME 2

IN SPRING 2010 EVERYWHERE BOOKS OR COMICS ARE SOLD!

AUTHOR'S NOTES

Pg. 17 Hacker: a computer criminal who infiltrates other cyberbrains, steals information, manipulates data and programs, plants viruses, and otherwise corrupts them. The penalty for genius hackers who can infiltrate ghosts (souls or psyches) is particularly harsh.

Pg. 20 When you copy a page of something, the original doesn't disappear, and in the same way, information isn't really lost when it's "stolen" in this story. The only way you can really know it's stolen is by detecting when an improper contact is taking place – and it's hard to tell if it's really improper or not – or when there is some indication that others have the information (this requires an assumption). Since those who stole it will – obviously – pretend they didn't and will manipulate the data, information wars become extraordinarily difficult. There can be multiple rulers existing simultaneously in the cyberbrain world, and their power is determined by the number of "keys" they have to access each network and by their ability to break through defensive barriers. The problem is the great number of code keys, or barrier-breaking ability, and the information processing power, not the size of the database. There's no use having a huge amount of information; if it's always being controlled, the network can still be cut off whenever desired. Ideally, one exerts the necessary controls at the necessary times, in a way that it won't be discovered. In order to be able to respond to changes in information, rather than concentrating it at one location, it's also better to decentralize and redistribute it. That also means if there's an accident or disaster, damage will be kept to a minimum. In other words, the nervous system of a cyberbrain person is his or her own individual network.

Pg. 27 Regarding the antenna function of the brain: one thing people (or what might better be

called "spirits") were originally capable of was a type of "channeling" that allowed them to synchronize with the external universe and make contact with the internal universe and with kiko energy, things easily understood as phenomena. For cyborgs whose bodies are almost completely machines, it's simple to put their sensory mechanisms in a sleep state, so when they run a "scientific" cyberbrain synch, they can easily enter a quasi-channeling state. (Maybe I'm the only one who thinks this way, but when people talk about the mentally disturbed or schizophrenic person hearing "broadcasts" or "voices," it might be related to this phenomenon.)

Pg. 36 Most types of artificial blood being considered are white in color; androids in recent science fiction have white blood. In my story, however, in view of the antenna-effect and magnetism influence, I've given my android red blood with an iron component. The liquid that the neurochips are soaking in, by the way, is neither red blood nor white blood but a nearly transparent, artificial spinal fluid. Blood products apparently never flow directly into the human brain due to the "blood-brain barrier," and I've heard this is a special mechanism to ensure that foreign substances in the blood never directly attack the brain.

Pg. 37 Regarding Batou's lines on page 36: Personally, I think all things in nature have "ghosts." This is a form of pantheism, and similar to ideas found in Shinto or among believers in the Manitou. Because of the complexity and function, and the physical constraints they have when they appear as a physical phenomenon, it may be impossible to scientifically prove this. There are, after all, humans who act more like robots than robots, and one cannot say for certain that they have no ghosts

just because they don't act like it. In ancient times, neither air nor the universe were believed to exist. Just for reference, I should state that not all ghosts are the same in terms of complexity or effect.

Pg. 46 Japan currently has no "Ministry of Internal Affairs." The police in Japan are headed by a state minister and a five-member National Public Safety Commission (including the prime minister). In *Ghost in the Shell*, politics aren't the main theme, so to make things less confusing, and because I like the way the British do things, I've created a Foreign Ministry and a Ministry of Internal Affairs. England has shadow cabinets, a term that has awfully negative underworld connotations in Japanese, so I don't like it, but I hope our opposition parties in Japan operate like that someday.

Pg. 50 Government departments in Japan generally start drawing up their rough budget requests for the next year in April. (It's another way of saying "gimme money.") The end of August is the Ministry of Finance's deadline. At the end of the year, the Ministry of Finance then presents a revised budget to the Cabinet and shows it to each ministry and agency. This is, in other words, the ministry's request to "hold the line at point x. . ." Upon accepting this, the head honchos, on up to vice ministers, at each ministry and agency start negotiating to try to restore whatever amount they can (with howls of protest and requests for a chance to explain further). Then the Minister of Finance presents the final draft to the Cabinet, and the Cabinet presents it to the diet, or (one hopes!) Parliament. In this story, however, the budget for Motoko's unit is part of a secret, "black" fund. . .

Pg. 57 Endorno is the brand name of a virtual-experience software designed for E-brain cyborgs.

It allows several members of the same sex to share in the enjoyment of a sexual experience, on several lines simultaneously. ("Multi" refers to the experiences of three people on one line). It's mainly illegal pornography that's experienced. There are obviously some harmful effects, but the stuff continues to be used in an underground network. Motoko Kusanagi has a particularly advanced prosthetic body, and for her it's a highly profitable side business. (P.S., it doesn't work on the opposite sex, for obvious reasons...)

Humans are said to have the following: pain points: 102–142 /cm; pressure points: 25/cm²; cold points: 636/cm²; warm points: 0–3/cm².

Pg. 58 Batou's exclamation about drugs here occurs because he's synchronizing with major quantities of endorphins and other neuro drugs. It doesn't mean he's actually using the drugs. E-brain sex doesn't work in such a traditional way. It is possible to do a variety of creative things by further mastering the program, but in these drawings I unfortunately opted to depict easy-to-understand situations rather than the concept. The blue fluid depicted on the previous page is a program that amplifies sensation ...

Pg. 59 For safety reasons, and to prevent information leaks, all of them, including Major Kusanagi, live in more than one place – in downtown apartments, suburban condos, company housing, and hotel rooms, etc. During their e-brain sex, they've turned off their connection to the outside network to thwart hackers from jamming the system. If someone has their e-brain key, however, they can still establish direct contact. Batou is suffering because his brain is receiving sensory

signals from an organ he doesn't even possess... Some people may be repelled by the thought of slugs fornicating, but there is an unusual carnal beauty involved which is worth looking into.

Pg. 60 The foreign minister's references to "E" ranking — "6 for need and 1 for difficulty" — is something I made up. (It's such an insulting way of putting it; normally, I'm sure the minister would just say they're a tiny country not worth worrying about.) The protrusions above and below the helicopter nose are wire cutters. Just to clarify: wire cutters are not a fancy new secret weapon. They've been around for some time and are used as a guard against power lines and the cruel booby traps often employed in urban warfare, the wires that are strung to stop jeeps by decapitating the drivers, or the helos that snarl props, causing a crash. Also, this is a post-war scenario, and still fairly dangerous, so the VIPs have to be protected in a variety of ways. (Now, don't any of you readers go stringing wires to stop off-road bikes! It's dangerous, dammit! My brother-in-law was nearly killed by that.) I'm not sure what the minister means about Malles sending aid. It's a mystery.

Pg. 61 "ODA" refers to the Official Development Assistance, or Foreign Aid Ministry. (This is the problem agency, the one we wish would use our taxes more efficiently!) The foreign minister's comments about the ODA are probably a better way of looking at the situation, rather than just thinking of it as an "invasion using economic power instead of weapons." As long as the ODA fails to properly understand the countries it's supposed to be aiding, it will probably just be spinning its wheels. (Of course, the recipient countries are also responsible for this lack of understanding.) "Gavel" may sound like a weird name for a na-

tion, but that's because it's more than a nation. One of the sub-themes of this story is that Gavel has taken on the name of a giant conglomerate or capital group. (About the ODA: since Japan did make a mess out of Asia in the past, and this is still having an effect on the area, it's probably best to regard the aid as a type of compensation for past exploitation . . . If one simply chooses to ignore Japan's efforts, that is.)

Pg. 64 The "pinhead" referred to is, as one might assume, the ability to hit the head of a pin 100% of the time. For a short-barreled gun, 100 yards is probably the limit. I think this shooter would almost have to be a genius, but I used this figure because I don't think it's completely impossible. Of course, it's important to remember that since she's a cyborg, one can almost completely ignore FRE (forearm recoil energy). Also, this score is obtained with a high muzzle-velocity gun that uses ultra-small-caliber ammunition. One of the selling points of the Seburo is that it doesn't jam, even when a cyborg's pulling the trigger, firing 12 rounds in three seconds . . .

Pg. 65 Revolvers don't need to be loaded one cartridge at a time; some have speed loaders available that allow loading six at a time. Some can be fired quite fast in training, but if your target runs to the left while you're loading, you may lose the opportunity to fire. Under normal conditions, you probably wouldn't be able to fire at all. I'm sure you understand why. The Seburo, however, is a gun with an extremely reliable extractor and bullets with clean neck lines, so it rarely jams. It's an example of high-precision engineering in a small firearm. The AS11 referred to is supposed to be a Chinese assault rifle based on a Korean model.

Pg. 66 "AI" stands for artificial intelligence. This is a field of research in computer science that studies not just business-related information processing, but intelligent functions. I think of it as a knowledge/information processing device that is not human. That is, artificial. Experts hold a variety of opinions on this.

Pg. 70 Contagious medical waste, or bio-hazardous garbage, is often poorly handled and will become a major problem in the future. Not only are the associated costs astronomical, but terrorists may start using some of the disease-carrying material. Finding a solution – create a huge, high-temperature incinerator and collection specialists; the parks and recreation can come later – should be given top priority by local governments. And hospitals: are they really sealing this stuff properly and giving it to the right parties? From what I hear, the volume isn't that great . . . In the illustration, our senior citizen isn't being pecked by crows, probably because he's pickled in some sort of hazardous substance.

Pg. 77 After this kind of conversation with Togusa, Major Kusanagi probably thinks it was a mistake to have head-hunted him from police headquarters. She believes the ability to sniff out criminal activity by intuition cannot be acquired through training or experience. She calls this "ghost-whispering" and likens it to the abilities possessed by schizophrenics or channelers.

Pg. 87 In reality, might usually makes right, but there are those who, in reaction to this bleak reality, believe in the opposite ideal that might *shouldn't* make right. In trying to enforce their ideal, however, might, or force often becomes necessary, thus showing how difficult it is to put ideals into

practice. Also, in talking about what is right or just, whether with regard to groups or individuals, Muslim society or Christian society, etc., the different concepts of what is right lead each to view the other as evil. This makes the whole concept of right or wrong seem rather antiquated. If a consensus of the majority is all it takes to determine what is right, then having and controlling information becomes extraordinarily important.

Pg. 98 A robot is a system – this includes computers – wherein a specific input, or instruction, results in a specific output, or performance. Some robots by themselves "can discriminate and perform multiple tasks to a certain extent." But robots are fundamentally different from androids. "Android" is a word that refers to the mecha that results when humans try to see if they can create humans using mechatronics. Conversely, it's a type of mecha that allows humans to mouth statements like, "humans are complex, but they are a system, so they can be replicated if only these components are put together in such and such a way."

Pg. 99 Als with prosthetic bodies probably never experience hunger, sexual desire, the desire to sleep, or even the desire for glory and honor, unless programmed to do so. If they have any desire, it's probably to expand their network or create something or control something. In other words, to grow as an information system. This is something we may know in the near future, but have no way of determining now. I don't think there's an AI superior to a human in existence yet, but how should I know? I'm only a cartoonist! The definition of a human is very vague, so when an AI superior to a human is developed, the question is: will humans really be able to recognize it?

Pg. 100 In looking at a book on brain death, it appears that whether a ghost attaches itself to a body or not is determined partly by the activities of the cerebrum and the lower part of the thalamus. Generally speaking, what we refer to as the "spirit" or "soul" is a very vague concept, including things programmed into, or closely related to, the physical body, such as memory, the results of chemical reactions, and emotions, etc.

Pg. 102 I'm sure there's really no need to note this, but the amount of micromachines in the solution, the amount of current applied, and the length of time, etc., are all – allowing for some error – determined by the class of micromachines. There are different types of micromachines – those that react to pressure, changes in temperature, pain – which is difficult – and they are mixed into the solution at a fixed rate. Changing the ratio of micromachines makes it possible to make a particular sense more delicate. Furthermore, for cyborgs employed in special types of labor, it's also possible to create special skin senses – such as the ability to detect gases or magnetism – that humans do not possess.

Pg. 105 These micromachines are a bio-type created using enzymes such as luciferase (what a fiendish-sounding name!), which is found among other things in the light-emitting organs of fireflies. (In reality, they're not black spots, of course.) Someone was supposed to have genetically engineered a Japanese killifish to produce luciferase. I wonder what happened to that idea?

Major Kusanagi is deliberately designed to look like a mass-production model so she won't be too conspicuous. In reality, her electrical and mechanical system is made of ultra-sophisticated mate-

rials unobtainable on the civilian market. If she appeared too expensive, she might be suddenly waylaid on a dark street some night, hacked up, and hauled off to be sold. "Custom models" here implies models with a prosthetic design created by a professional artist. For such cyborgs, an artist designs everything from the shape of the mechanical components to the external appearance. It is not unusual for designer-cyborgs to be over-stressed, or to have a variety of design imbalances, sometimes with grotesque results.

Pg. 107 16² indicates that the micromachines used for skin sensation are extremely tiny. Since obtaining these is an act of treason and thus is not available on the open market, this is something that Major Kusanagi has secretly obtained. It's clear that these women are manufacturing products of extremely high precision, but it's impossible to determine if the precision is the result of the 162. We can assume, however, that they are using micromachines even more advanced than those on the open market. The women, therefore, don't have to worry that someone will find out what they're doing.

Pg. 108 What do total cyborgs eat? I imagine that initially, cyborgs consumed small quantities of a paste-like substance or pills, but – partly for psychological reasons – by the time of this story, they are shown eating synthetic food such as shown here, with a "normal appearance and oral sensation," including taste. Fuchikomas, on the other hand, can last for two months by merely replenishing their tanks with a fluid mixed specially for neurochips. (Or let's assume so.) Fuchikomas aren't pure bio-robots, however.

Pg. 110 This is not an E-brain space or virtual reality, but a 3-D video room. Colonel Tonoda is on

a platform like a huge room-runner, the orientation of which is adjustable. He's surrounded by a dome-shaped room, with scenery simulated using a retinal-projection on the white, screen-like walls. Others would not see the view he does. Golf simulators using a similar, but much cruder principle exist today.

Pg. 117 "One life is more precious than all the stars in the heavens," or so the saying goes, but it's just a noble sentiment. In reality, a planet is worth far more than even a race of beings, including human, and thinking otherwise is a manifestation of the arrogant attitude we humans have that makes us ignore other life-forms. I hate the saying. I do have respect for human life, but I'm just trying to say that it's not as important as a whole star.

Pg. 120 The activity of cells creates order, forming organisms, human bodies, and groups of individuals. Just as at each level, every one of these things has its own phase – if that's the right word – the phrase about the "world turning" refers to the overall speed of people's activities. This doesn't necessarily imply there is a larger, overriding conscious "world." Although they are of completely different scale, I use the words "god" and "spirit" in a similar way. Channelers are said to "speak with the will of the gods," but I don't think this means a human-like god speaks to the channeler. I think a special phase that we call "god" merely syncs with the channeler's linguistic field, physical functions, etc.

Pg. 121 In the future, perhaps such advanced, high-precision robots (almost all androids) would not really be discarded so easily. But only a few years ago, who would have believed that the of-

fice and audio/video equipment we now take for granted would become so common? Frankly, I doubt that true humanoid robots will become so popular. If they were mass marketed, it would probably be with a leasing system, and there would be monthly inspections. Don't forget though, that nowadays when machinery's been used for five or six years, it's scrapped or sold cheaply to other countries. The same thing's true for consumer goods with AI functions built into them.

Pg. 123 Trichophyton and Claviceps are names of fungi. For those who want to know more, refer to W. D. Gray's *The Relationship of Fungi to Human Affairs*. There's no deep significance in using these names, but they were convenient for telling a story with lots of creepy elements. In order to keep up in the next century, Japan has got to develop micro-machines and VLSI technology, and, to do that, sterilization and anti-fungi technologies will also be essential. Fungi applications and cyborgization, or using genetic engineering, will become an important theme.

Pg. 127 For readers who demand realism, I should note that a cyborg such as the Hanka president – a master-slave, dualistic heart-mind type – probably would not function properly or be able to exist unless it had simulated internal organ signals in a fairly realistic way. We humans are normally taught to distinguish between the body and the mind, but we shouldn't forget that the brain is part of a neural net that runs through the entire body, and thus, is part of the overall system. I read a report from somewhere about an experiment that indicated, "it is possible to mechanize part of the system [the human body], but when most of the end-terminals in the system are removed, output from the autonomic nervous system practically

vanishes." In this story, I'm assuming that signals in artificial, prosthetic systems have been developed to a very high level.

Pg. 130 This is a trivial point, but rifle bullets, as we all know, are very fast, usually faster than sound, depending on distance, performance, and muzzle velocity, of course. As a result, I've deliberately avoided showing bullets strike after indicating the sound. Given the way I've drawn the rifle in this section, it wouldn't really matter, I suppose, but I did it anyway, which is a bad habit of mine. In this scene, Togusa was supposed to fire back two or three rounds and dash – with Batou covering him – which would have let the pair reach the bottom of the building faster.

Pg. 134 The man's words in panel 7 have no particular meaning. He's just trying to get Batou's attention, and while some people might understand him, the main thing he's trying to convey is hostility. Since it works, it may be a type of incantation. He's assumed that Batou and Togusa are police from the way Togusa yelled "Freeze!" at him.

Pg. 139 In movie scenes of special forces making indoor assaults, one often sees several people with guns drawn, charging down a hallway. They'd have to be really "special" forces to do so (ha-ha). In reality, they usually peek around a corner first and then, depending on the situation, make their move (like they did in *Ci5* and *The Silence of the Lambs*). In the old days, they probably used a dental mirror or something. The most important thing is to make sure you have the advantage before the enemy spots you and to not just start blasting away. The real firing should be done as support or when moving.

Pg. 140 Normally, I hate the sort of expository lines used in the second panel and try to avoid using them, but for *Ghost in the Shell*, I've forced myself to make an exception. The name "Gosseyne" is taken from A. E. van Vogt's science-fiction novel *The World of Null-A*. Adam and Link are similarly inspired by Eando Binder's *Adam Link – Robot*. If the "ghost" is a "phase" or "phenomenon," I suppose during dubbing, the original could disappear and something different would be born in its place. Regarding the smuggling, there may be those who would say this wouldn't be necessary, that Hanka would be able to breed the kids themselves, but let's assume that the food, etc., is too expensive and they've therefore decided to use stolen goods.

Pg. 143 The boss is mistaken when he talks about the death penalty here. At the time of the story, it doesn't exist anymore. Personally, I think the death penalty should only be considered on a case-by-case basis and that it's not right to lump all those who commit crimes under the broad term of "criminals." I'm not a devotee of Hammurabi, but I do worry about giving too many advantages to the perpetrators of crimes. Perhaps people should be sentenced to "death by execution, with punishment delayed if activities benefiting society are earnestly pursued."

Pg. 144 Regarding fleeing the country, I remember seeing the following on the news once: a serial killer sentenced to death in the United States fled to and was captured in Canada, which has no death penalty. In Canada, the argument erupted as to whether it was constitutional to return the man to the U.S., knowing that he would probably be executed. Learning of this, several highly sadistic serial killers – some of whose victims' bodies had not been found – remarked that "truly civilized na-

tions don't have the death penalty." I don't know the upshot of that particular case, but clearly, civilized nations with great respect for human rights are beloved by criminals so vile they wouldn't even appear in a comic book. Whatever happened to "crime and punishment"?

Pg. 145 Regarding ordnance and equipment: in this scenario, it's being jointly managed and developed by multiple corporations. Individuals and units are simply not capable of handling the guns, prosthetic bodies, manufacturing parts requiring special materials, doing replacements and maintenance, and maintaining the equipment in the ultra-clean plants that are required.

Pg. 152 The gun has a catch, about two centimeters above the ejection port, that throws the cartridges forward, but for right-side ejection, it ought to be possible to design a little catch, nowhere near as big as a kicker, that would scatter them downward. (What? You don't think that's a good idea?)

Pg. 153 We won't go into detail here about the fact that a two-hour retroactive check was done later on Fuchikoma's external input record. No evidence of hacker break-in was found, but this in and of itself does not guarantee that none occurred; it merely means that operations continue, with an added element of uncertainty. I'm also not sure if an AI would really understand the concept of "profound" or not. It's used here to indicate that the information is given high priority when categorized.

Pg. 156 Methuselah is a name from the Bible and has the connotation of someone who's lived a very long time. It's not the Soviet woman's name. "Comrade" already sounds old-fashioned, but I decided to leave it in anyway.

Pg. 158 As far as the Northern Islands are concerned, it would be great if both the Japanese people who used to live there and the Soviets who live there now could somehow coexist. But when it comes down to an either/or situation, each side always claims historical precedent and nothing's ever resolved. Japan can assert its claim to the islands all it wants, but the assertion won't do any good as long as it's just a gesture. If only we could use all the energy expended on arguing on finding a new solution! Do we really need to defend our rights to the point of ignoring the entire Soviet Union? I know Gorbys' in an unstable position and can't really develop a long-term strategy to solve the situation . . . but heck, the Soviets are taking too many fish in the area. (*Editor's note: this commentary was written in 1989.*)

Pg. 160 For the moment, forget that with anti-HERO measures implemented – "HERO," or Hazards of Electromagnetic Radiation to Ordnance, refers to the damage that EMF can cause to electro-mechanical components – both the helicopter and Fuchikoma would have been switched to manual mode, the attack barrier mode would have been activated to prevent cyberbrain hacking, and the main switches would also have been cut. Also, the Bertrave cityscape is comprised of skyscrapers two kilometers high, creating a disorienting sense of scale. For instance, 1,221 meters of Mt. Bertrave are completely blocked from view by the buildings. In the drawing on this page, the mountain is rendered at around 4,500 meters above sea level, with the metropolis sprawling 11-12 kilometers out on either side. Or something like that.

Pg. 196 Yano's family was notified only that he had "died in training" or was merely "de-

ceased." Families are never told the details or the truth of when, where, or how members die. At least this is better than learning about it years later, with the body somewhere unknown all that time. There are also times when deaths are reported prematurely, before a confirmation has been made, and the person is actually still alive. And, of course, there are times when death notices are sent out merely for strategic reasons.

Pg. 198 In distributed systems engineering, there's apparently no concept of "redundancy" in a group. To remove the old micromachines – let's say one has to inject "C" parts – reverse the adsorption, make them rotate, apply a centrifugal force of 5×10^{-4} dyne/cell to strip them off, and then suck them out with a magnet. (Given the blood-brain barrier, it's probably not a good idea to try to run them into the bloodstream and expel them that way.)

Pg. 205 Of course, in reality our pair would have been burned to a crisp and left without hair, clothes, or skin, but I don't show this because it would make things too confusing later on. To compensate, though, I've put an aquarium at the edge of the door, right next to the Major's boyfriend, and I've added a bathroom that's hidden by her. (I know it's normally supposed to be next to the door when you enter and that this still doesn't make up for it, but hey! Sue me!)

Pg. 207 Armored suit: A type of bullet-resistant, fire-resistant suit, completely covering the body and consisting of an external shell of compound materials and four battery-powered limbs for locomotion that mimic human movements using master - slave technology. Although referred to by different names, some

dangerous and impractical toys of a similar nature have been developed of late.

Pg. 212 This is a pretty classic way to avoid being tailed, but it probably wouldn't work for true pros. Normally, a 24-hour tail requires considerable manpower to prepare for all eventualities; it takes careful planning. If trains or buses are being used, shifts of people going in and out of the next three or four stations are needed. If cars are being used, it requires people covering either side of the road on which the suspect is driving. In reality, of course, these operations rarely go by the book because it's impossible to prepare adequately, to get all the people required or the budget to support them. In theory, I suppose, true pros are supposed to get as close as possible to textbook situations. Using split-second judgment to station two or three henchmen is one way to get around some of these problems.

Pg. 223 "HV" refers to actual ultra-high performance, high-velocity armor-piercing shells. In this story, after FN manufactured advanced P90 weaponry, these shells were developed for handguns and submachine guns. HV bullets are small caliber, providing low recoil and high penetration power, but they don't have very good stopping power against humans because they go right through them. Since these bullets are very effective against bulletproof vests, light armor, cyborgs, etc., in *Ghost in the Shell* they're fairly common but generally not available to civilians. The Seburo™ firearms our heroes carry use HV shells. Armored weaponry, like the think-tank that appears here, is necessary to go up against HV shells.

Pg. 226 Only a total cyborg can undertake this sort of high jump. If a partial cyborg with mechani-

cal legs or limbs tried it, this would probably cause a rupture where flesh and machine parts are joined. Although a different level of analogy, it's sort of like the situation with artificial human bones of the MgO-CaO-SiO₂-P₂O₅ glass variety, currently very popular. This material is reportedly between four to seventeen times more elastic than human bone, but because concentrated stress creates a problem, physicians apparently use something closer to actual human bones for better overall balance. In real life, of course, cyborgs are apparently being developed, not with "superpowers," but artificial tissues that attempt a substitution for bioactive materials.

Pg. 237 Regarding Major Kusanagi's unnamed boyfriend, what looks like a bandage or a towel is actually a collagen seal designed to stop the bleeding. We'll pretend here that it's the same as an actual product currently being sold by Avitene Inc. in the United States. There is a book (available only in Japanese), published by Shogakukan on blood coagulants, titled *Jintai no Shori*, or "Victory for the Human Body," that lists for about \$60.00 (ack!) but has lots of photographs and is interesting reading.

Pg. 238 When traffic accidents are used to assassinate people, the assassinations are extremely hard to detect. Of course, sophisticated techniques are required to make sure the assassin is unhurt while the target is killed, but I won't list them here as it might be dangerous – I don't want anyone to try them out! The fact that assassinations are used in *Ghost in the Shell* means there has been a failure in the political process. It's like rape, I suppose. If you see one happening before your eyes, you're not going to be able to talk the rapist out of it. You'll probably have to use force to stop the perpetrator. Ideally, that should happen before, not after, the rape takes place. Sad, but true.

Pg. 241 In the hour and a half before the incident was reported, assume that a thorough attempt was made to detect operator input errors, but that it wasn't possible to turn the power off because of delivery schedules and the need to protect the robot body.

Pg. 243 The "soul" that Batou is referring to here represents a fairly simple collection of energy, a relatively low-level spiritual structure – what I would have referred to as a "low harmonic level" in *Orion* – as opposed to a true "ghost," which is the higher level spirit attached to human bodies. "Manitou" and other "spirits" exist on an even more elevated plane and resemble what we call "gods" in the generic sense. The spirit world is infinite in its range, but from our perspective it includes everything from just below humans – from residual memories to simple insect and animal spirits – to way above humans (macrocosmic spirits at the limits of human imagination). Like human inner space, the spirit world is not vertically ordered in a hierarchy of control. Instead, the upper level is the sum of the activities of multiple sections. The same principle also applies, I suspect, to politics and ecosystems. Of course, if you select specific, individual levels to examine independently, then the entire structure appears to have a master-slave/top-down control aspect to it, but one suspects that the act of selection itself is what yields the materialistic conclusions to which people often come. If concentrated thought creates matter, molecules, chemical compounds, cells, organisms, and systems, then there is also a mode at each level of the hierarchy capable of bundling it all together.

Pg. 247 In this story, people of Willis' generation are often not directly linked with cyberbrains be-

cause they don't want their own brains fiddled with by cyberbrain doctors young enough to be their children. But since this also limits their dealings with the world, they try to bridge the gap through cyborgization. Willis is a good example.

Pg. 254 It gets harder to tail in the rain because of decreased visibility, but optical camouflage becomes easier to detect (especially when moving at high speeds). Opto-cam tailing is a trademark of S-9. Batou is following two cars behind the target car.

Pg. 268 Cyberbrain space and cyberspace are often depicted as glowing, three-dimensional graphs. This is an easy-to-understand representation, but I think cyberbrain space consists of something far more conceptual, something beyond and unrelated to our visual and audio senses. Of course, it's all right to use audio-visual representations, but the conversion seems inefficient and ultimately meaningless. After all, there is no form or sound in the cyberbrain world. And besides, we're talking about something that doesn't even exist yet – virtual reality still relies on the five human senses for its replication and thus isn't a true cyberspace – so this is all really meaningless speculation. Still, it's fun to imagine what it would be like.

Pg. 269 For those wanting to know more about saccades, etc., rather than a book specifically on biology, I recommend an interesting work titled *Sensors and the Eyes of Living Things*, edited by Kajuro Shimizu and published by the Information Survey Association, 1985. This book – which I've recommended before – describes not how we see things with our eyes, but how we "see" light information that comes through our eyes with our

brains. (Note: this book is presently only available in Japanese.)

Pg. 271 I drew the final panel the way I did just to make it easier to understand. The core memory is by no means the core of the Puppeteer; he is the total system itself. Generally speaking, when we refer to specific "individuals," we're not referring to their brains, but to their entire body. A "ghost" in this case refers to the state of the entire body-system (it might even be called a "phase") and not to a bundle of energy in the object called a "brain," although it may be a place created by energy. In our story, the "self" that the Puppeteer refers to is an integration of information that has reached a specific level of complexity, shifted, and created a phase called "life."

Pg. 273 According to some psychics, depending on the situation, even the spirit that we think of as the "self" (a "phase" of the system, perhaps?), may actually change mode, from thought or physical self, to a level where it is being influenced or controlled by a guardian deity, a protectorate spirit, or an original spirit, etc. If we're talking about infinite free holons in both lower and upper levels, then inner space and outer space continue ad infinitum. Shinto also considers things in terms of three stages – the *ikumusubi* or conscious self, the *taramusubi* or unconscious self, and the *tamamemusubi* or the self that transcends self.

Pg. 274 Just as one cannot see the layout of the entire vascular system with a micro-endoscope floating in the middle of a capillary, Major Kusanagi is unable to see the exact image drawn in these panels. She would only be able to see it if she had a map of the entire system sent to her from an observational "satellite," or external source. It's sort

of like the game where you put your hand in a box with a maze and with your eyes closed try to imagine what it looks like, or the way that in a dream you don't know the exact location of all the roads or buildings in a scene; at least most people don't. In a cyberbrain network, distance and specific locations can almost be ignored, especially when the hardware is wired. The more I try to visualize it, the more this type of depiction loses meaning, I suppose.

Pg. 275 Some readers may think that Aramaki should first use Batou and then call for outside help instead of the other way around. For the sake of clarity, let me explain. I thought that if Major Kusanagi were in trouble, and Batou did a brain dive using the same method and technology and barrier, especially since he'd be using his own barrier this time, he'd only run into the same problem. In this story, the winners and losers are not determined by guts and passion but on a digital level by the "system" and the voltage. There's no real struggle or contest; a split-second flow determines the winner.

Pg. 277 In this case, the electrons and the magnetic force that Major Kusanagi is referring to have the same relationship as patterns and backgrounds do. I realize that Kusanagi's bit about "electron traces" is a little unclear, but it's just her way of saying it.

Pg. 279 The Puppeteer has discovered that at each tier, the relationship between quanta creates a phase. This is also a discovery of self. "The self as part of the whole" used to consist of a relationship such as "the complex structure of natural things ÷ a part of nature," but now, phases such as society, corporations, and the state are also powerful. Most

religions have anthropomorphized the upper level of the system they believe in, and thus think of it as a sort of lord over the decision-making process, but like the relationship between the mind and the body, this is not really a higher-level control. It should be thought of as a phase (mode) of the totality.

Pg. 283 What do you think are the top three events in history? In the context of the story, Major Kusanagi is thinking of the discovery of fire, electronics, or electricity, and the creation of life. I realize these are kind of vague! I know that some people would probably list the wheel, computers, nuclear energy, or writing, language, or death, which is a big one. All are important. In my way of thinking, fire differentiated man from apes, and electronics includes information processing by computers. I can understand why some people would leave out physical tools, but not including language and writing systems (and symbols), and especially death? Well . . .

Pg. 284 The fact that I have a lot of religious references in my comics recently – Orion is another example – has nothing to do with the popularity of new religions in Japan. I include the reference because I think that as society ages and enters an era where high-tech and philosophical problems are increasingly intertwined – issues regarding brain death and the environment – organized religion is one of our biggest obstacles. At the start of the twenty-first century, around the time a savior is prophesied to return, I believe the fusion of science and religion is going to be one of the most critical issues facing us. Religion will have a huge role in issues of abortion, blood transfusions, bio-meat for consumption, and the use of fetuses and the dead for bio parts.

Pg. 286 Kusanagi's skull is made with a titanium shell, and she has a large number of prosthetic enhancements, so she really does have to worry about sinking. But not all cyborgs sink – some models are designed to float with special foam-based materials.

Pg. 288 Y-3 does not refer to a submarine but to a cyborg in the *shape* of one, covered with muscle tissue on both sides, extending back to a tail.

Pg. 293 Gertex is a coined term. It's a Czech-manufactured plastic explosive (PE), second in popularity only to Semtex. A real headache for security, it can't be detected by sensors at airports, yet only ten ounces of it can blow a 747 to smithereens. Gertex does not exist in the real world.

Pg. 297 Use of strategic, nuclear weapons is referred to as "H. (high) I.C.," traditional warfare is referred to as "M. (middle) I.C.," and conflicts involving low levels of destruction are referred to as being "L.I.C."

There are examples of this type of exchange in the British Parliament, but in Japan, with its shadowy back-room politics, it seems highly improbable.

Pg. 300 If you're confused, this is Kusanagi's Section One boyfriend from chapter eight.

Pg. 303 MOSSAD is the world-famous Israeli intelligence agency which – in the era of this story – has gone a little soft.

Pg. 314 Japan used to have a jury system, but it was suspended, not abolished, in 1943. November 1, 1990 is the one-hundredth anniversary of Japan's modern judicial system. In recent years,

there has been a movement to reconsider the use of jury trials and other forms of citizen participation in the legal system.

Pg. 329 Kusanagi and Batou's car is obviously not from Public Security's vehicle department. Nor is it one of many they've hidden throughout the city. They're simply driving a stolen car. They've removed the plates and replaced them with their own, and these plates are forged versions of VIP numbers that they've researched. It's one of young Batou's clever little ideas. He figures that if any problems occur, it'll at least make the authorities hesitate before responding.

Pg. 332 Major Kusanagi is worried about the vehicles in panel three because she can't imagine multiple thieves breaking into such a large facility and carrying off everything they steal on foot. In addition to the three dead thieves, she thinks someone else must have fled in a vehicle. Of course, there's always the possibility that there were only three thieves who came on foot and really did plan to carry out the loot, but since they're dead, she doesn't have to worry about that situation.

Pg. 333 Panels four and five show a screw-activated switch, the type used in bomb casings. But in this era, the system is electronically activated with only a half-turn because shape-memory alloy wire is used. As a result, the easiest way to dispose of bombs is to cover them with a titanium shell and blow them up.

Pg. 334 It's not clear in this story whether the actual metal body was corroded when the mold attacked the aluminum alloy coating, but when Batou sees the mold-covered mechanism he says, "Mold?! On an aluminum compound?!" Given the

setting, it may be the result of a micromachine – in this case a microcrobial robot – weapon, but I for one certainly hope that such a weapon is never manufactured. (How irresponsible of me to believe this without basis.)

Pg. 336 In panel five, Batou is not trying to hide in a locker. He's entered a secret passageway through an opening disguised as a locker. In reality, there's a huge duct right under the locker, so they've really just carved a hole in the duct and closed and locked off the other entrances.

Pg. 338 Concerning the fissioning pyramid indicated with protons (yangerons): this is a diagram of a system, so it ignores the actual numbers at each different level. As with powers of ten, in terms of size, the progression would be [microscopic constructions human size heavenly body size], but in terms of structural complexity it would instead be [microscopic constructions heavenly body size human size], which is also the order in which they were actually created. In this sense, in the third panel on the next page the more one enters the middle region, the newer and more complex the system becomes. Please view it as being in the realm of "human size." In other words, from the level of complexity, it's inevitable that the micro and macro worlds resemble each other.

Pg. 339 I've read somewhere that in the very distant future, after 10107 seconds have elapsed, the material universe will become an extremely rarefied – and when I say "rarefied" here I mean really rarefied! – gas of electrons, positrons, and photons and will stabilize. With this kind of universe, it's hard not to start imagining such implausible things

as the eternalness of God or spiritual trips unhindered by the speed of light.

Pg. 342 I'm sure everyone is aware of the theory of the void-like nature of the galaxy, but the idea of a rotating universe is probably a product of my own vivid imagination. My reference to "moment" may be a completely inappropriate and silly analogy, but who knows what time is really like, anyway? In the second panel, in terms of a signal, I think that complete homogeneity would represent death. True randomness is something machines are actually better at than humans, so a "biased-randomness" in and of itself may be a characteristic of life.

Pg. 343 For an interesting definition of life, I recommend von Neumann's ideas as described in "An Information Theory Definition of Life" in chapter 11 of the book by William Poundstone titled *The Recursive Universe: Cosmic Complexity and the Limits of Scientific Knowledge* Contemporary Books, Inc. It has descriptions of everything from dead bodies to clones, but – what the heck – I wouldn't know how to classify an old man with dementia who's finished his genetic replication. Unless somebody can define holons, it seems to me that organ transplants will make this problem spiritually impossible to resolve. But if self-replication can be considered a life-form, then intelligence should be, too. The real problem is that "life" is a such an unscientific word.

Pg. 344 The "altered-species/glider" that the Puppeteer is referring to probably includes the slack and "play" that he would gain as a result of incorporating Kusanagi. "Glider" has no specific meaning here . . . I know it's not ideal for this situation.

AUTHOR BIOGRAPHY

In 1983, Shirow Masamune published his first manga, "Black Magic" from *Atlas*, a science fiction *dojin* manga society (*dojin* is the Japanese term to describe an amateur fan publication).

In 1985, Shirow's first major work, "Appleseed," was published by Seishinsha, without being serialized in or submitted to a manga magazine, which is quite rare in the Japanese manga publishing industry. Shortly thereafter, Shirow set up his own company, and besides working on his own manga and illustration work, took on projects from the anime and game industry, as well as designing pens, air guns, and computer mice. Since 1996, he has created his artwork through the computer, and from 2000, graphics work in color, writing, and project development has occupied most of his time. He does not consider himself a mainstream professional manga artist, but his fans and supporters in the industry consider him to be one of the all-time great manga creators. Since before the days of the anime movement, Shirow's work has been recognized and highly respected outside Japan. He has been active in numerous anime and game projects but it is rare for him to take the helm of such projects, or even to have his name used prominently.



Shirow Masamune was born in Japan in Chuo Ward, Kobe City, Hyogo Prefecture, on November 23, 1961. He still lives in the same district.

Career Chronology

- 1983 Publication of manga trade paperback "Black Magic" (*Atlas*, a *dojin* company)
- 1984 Publication of manga trade paperback "Appleseed" (Seishinsha)
- 1985 Publication of manga trade paperback "Appleseed 2" (Seishinsha)
- 1986 Publication of manga trade paperback "Dominion" (Hakusensha)
- 1987 Co-directed, with Hiroyuki Kitakubo, the original video animation "Black Magic M-66"

- 1987 Publication of manga trade paperback "Appleseed 3" (Seishinsha)
- 1989 Publication of manga trade paperback "Appleseed 4" (Seishinsha)
- 1991 Publication of manga trade paperback "Kokaku Kidotai – The Ghost in the Shell" (Kodansha)
- 1991 Publication of manga trade paperback "Senjutsu Cho Kokaku Orion" (Seishinsha)
- 1992 Publication of artbook "Intron Depot" (Seishinsha)
- 1992 Serialization, though uncompleted, of manga "NEURO HARD – Hachi No Wakusei" (Fujimi Shobo)
- 1994 Cover art of the novelization by Nemuru Anzu, "Tokuso Senshatai Dominion" (Kadokawa Shoten)
- 1995 Publication of manga trade paperback "Dominion C-1" (Seishinsha)
- 1997 Poster portfolio "Kokaku Kidotai – Cyberdelics" (Kodansha)
- 1998 Illustrations in the novel "Jashin Hunter" vol 1 and 2 by Izumi Makoto (Seishinsha)
- 1998 Illustrations in the novel "Taimakan Akagami Kyoya" by Kotoda Kotaro (Media Works)
- 1998 Publication of artbook "Intron Depot 2: Blades" (Seishinsha)
- 1999 Illustration in the novel "Valeria File" vol 1 and 2 by Tani Koshu (Chuo

Koron Shinsha

- 2001 Publication of manga tankobon "The Ghost in the Shell 2 – Man Machine Interface" (Kodansha)
- 2003 Publication of artbook "INTRON DEPOT 3 – BALLISTICS" (Seishinsha)
- 2004 Publication of artbook "INTRON DEPOT 4 – BULLETS" (Seishinsha)
- 2006 Anime project "G3" starts (later to become Ghost Hound and RD produced by Production I.G.)
- 2008 Illustration of the novel "Classical Fantasy Within" by Shimada Soji, 7 out of 12 volumes published to date (Kodansha)
- 2009 Publication of manga trade paperback "Kokaku Kidotai 1.5 – Human Error Processor" (Kodansha)

It's been 17-and-a-half years since the book's first printing in October 1991 and I never did think I would be given the chance to write another postscript.... but the fact is that I can now do so without causing trouble to anyone and so I'm adding some details for the sake of the record.

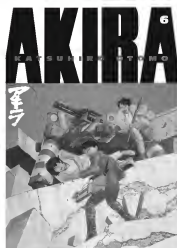
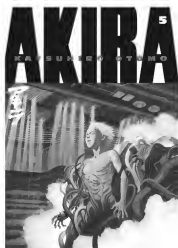
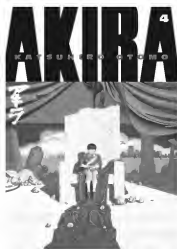
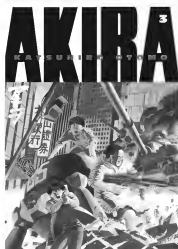
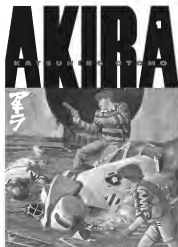
I made my debut as a manga artist by having a work published in book form first, not as a magazine serialization, from Seishinsha. It just happened that way, it was not deliberate on my part (I've written about this before). Because I had this experience, when I was later contacted by Hakusensha about doing a serialized manga, the project went forward with ease. Whether this magazine serialization gave people the impression that "this guy can do the usual magazine thing" or not I don't know, but when Katsuhiro Otomo, creator of *Akira*, was talking to his then-editor at Kodansha, Otomo told him that he "should make this Shirow Masamune do some work" for him, and this editor Y decided to contact me.

I haven't done a fact check, but this seems to be the way things happened, at least according to the editor, Y (forgive me if my memory has failed). If this editor hadn't commissioned the work, instead of working on *The Ghost in the Shell*, I would have gone and written something else, with some other publisher. Therefore it could even be said that Katsuhiro Otomo and Y are the unwitting and indirect fathers of this work. I can only hope that this doesn't embarrass them.....

I'm quite certain that the editorial staff had many concerns about me, perhaps something like "this Shirow guy writes some weird and complicated science fiction stuff" (laugh), but *The Ghost in the Shell* got under way in 1988 when I submitted a plot outline to "Young Magazine Pirate", which was a special extra issue of "Weekly Young Magazine". The original title I chose, *The Ghost in the Shell* as it is known now, was in English and not Japanese, but this wouldn't work in a mainstream magazine in Japan, and it looked a bit like I was "trying too hard," so I also put on it the descriptive title "*Kokaku Kidotai*" (Security Force Kokaku). The title was not created by the editorial staff. I was myself rather worried about the serialization frequency, and so put together a very "safe" schedule with plenty of room around the deadlines. Thus we started at a quarterly pace from April 1989, and S became my editor. I very nearly missed a deadline once, but finished the series on time somehow and work on the graphic novel started in 1991. 348 pages in A5 size, with 64 pages in color, at the price of 1000 Yen (about \$10.00). I've always been grateful to everyone involved in the production of this book, as well as the readers, for allowing me to publish in such an unusual format and design.

I'm sure there are pros and cons about the content of the book, but everyone (including my readers) allowed me to express myself freely. This means of course that if it's not interesting, the fault is completely mine. Now, nearly 21 years from when I first conceived the plot, I'm even more grateful (because I later discovered this isn't always the case). It's a pity that, objectively speaking, this work is not a manga of outstanding quality in itself, but all involved, including my readers, have been generous in supporting and nurturing this property. There couldn't be a happier situation for a work and a product.

In its basic premise, this work includes a backbone similar to that in any old TV cop drama series, and therefore lent itself well to spin-offs and development, but my manga in itself departs from this structure in order to be self-contained as a book in its own right. This is not a manga created with the intent of continuing indefinitely as a series. This fact cast its shadow on the development of the TV anime series, but the treatment that the anime production team opted for ultimately made it into a well accomplished piece. The manga of *The Ghost in the Shell* didn't place importance on its sustainability as a series because it is faithful to the idea that works in different media, be it film, TV series, manga or novel, should each be optimized to its own art form. This actually means that the most basic series with the most sustainable structure, or the definitive manga series / TV anime series of *The Ghost in the Shell* which should have existed, still does not, or perhaps never will, exist. To wish for a more perfect situation would be selfish so I dare not, but there is still room for improving the world of *The Ghost in the Shell*. I'm currently working on this point in another project, so it could be that my readers will come across future titles which will be the shadows, or the descendants, of *The Ghost in the Shell*.



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